

Digitized by the Internet Archive
in 2017 with funding from
The National Endowment for the Humanities and the Arcadia Fund

<https://archive.org/details/journalofarkansa72unse>

June, 1975

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Vol. 72 No. 1

FORT SMITH, ARKANSAS

ARKANSAS MEDICAL SOCIETY
CENTENNIAL YEAR

BECOTIN®
Vitamin B Complex

BECOTIN® with VITAMIN C
Vitamin B Complex with Vitamin C

BECOTIN®-T
Vitamin B Complex with Vitamin C, Therapeutic

MI-CEBRIN®
Vitamins-Minerals

MI-CEBRIN T®
Vitamin-Minerals Therapeutic

AND A WIDE VARIETY OF OTHER PHARMACEUTICALS



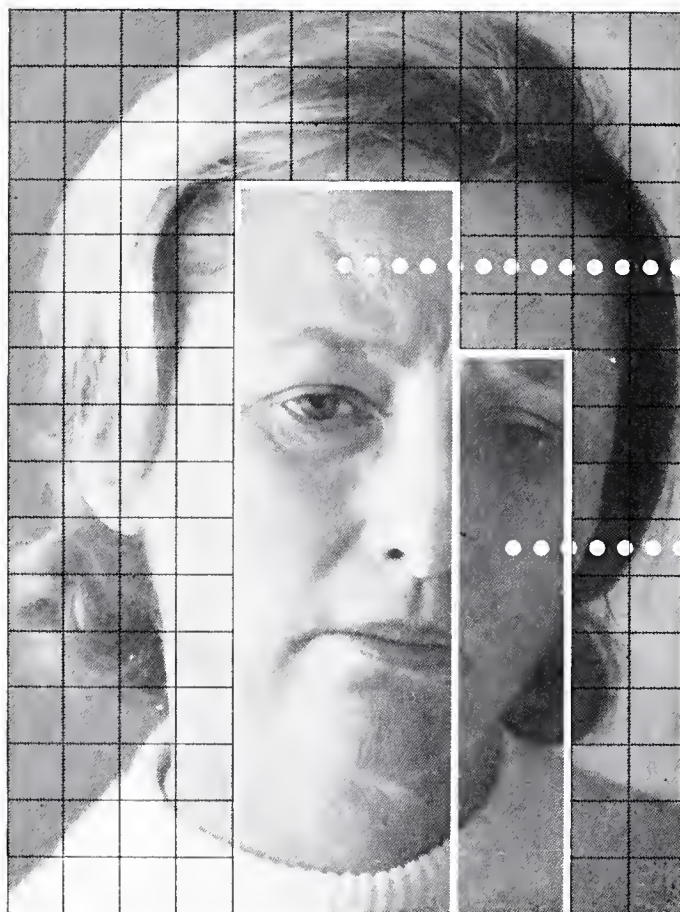
DISTA PRODUCTS COMPANY
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

400944

LIBRARY
U.C. SAN FRANCISCO

JUN 25 1975

Both often



- Predominant psychoneurotic anxiety

- Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

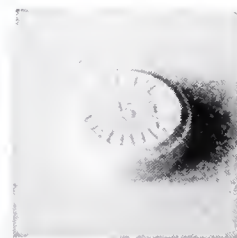
respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent

in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium[®] (diazepam) 2-mg, 5-mg, 10-mg tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

315958

THE
JOURNAL OF THE
Arkansas

MEDICAL SOCIETY

Owned by
THE ARKANSAS MEDICAL SOCIETY
And Published Under Direction of the Council

ALFRED KAHN, JR., M.D., Editor
1300 West Sixth Street Little Rock, Arkansas

MR. PAUL C. SCHAEFER, Business Manager
214 North 12th Street Fort Smith, Arkansas

LITTLE ROCK BUSINESS OFFICE
114 E. Second St. Little Rock, Arkansas

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY

T. E. TOWNSEND, President	Pine Bluff
A. S. KOENIG, JR., President-Elect	Fort Smith
ASA A. CROW, First Vice President	Paragould
MAHLON O. MARIS, Second Vice President	Harrison
DONALD L. DUNCAN, Third Vice President	Texarkana
ELVIN SHUFFIELD, Secretary	Little Rock
KENNETH R. DUZAN, Treasurer	El Dorado
AMAIL CHUDY, Speaker,	
House of Delegates	North Little Rock
CHARLES F. WILKINS, JR., Vice Speaker,	
House of Delegates	Russellville
ALFRED KAHN, JR., Journal Editor	Little Rock
C. C. LONG, Delegate to AMA	Fort Smith
PURCELL SMITH, Delegate to AMA	Little Rock
JOE VERSER, Alternate Delegate to AMA	Harrisburg
T. E. TOWNSEND, Alternate Delegate to AMA	Pine Bluff
MR. PAUL C. SCHAEFER, Executive Vice President,	
P. O. Box 1208	Fort Smith

COUNCILORS

First District	JOHN B. KIRKLEY	Jonesboro
	*ELDON FAIRLEY	Osceola
Second District	JOHN E. BELL	Searcy
	*PAUL GRAY	Batesville
Third District	*L. J. P. BELL	Helena
	FRED C. INMAN, JR.	Carlisle
Fourth District	JOHN P. BURGE	Lake Village
	*RAYMOND IRWIN	Pine Bluff
Fifth District	*J. B. JAMESON, JR.	Camden
	JOHN H. MOORE	El Dorado
Sixth District	*C. LYNN HARRIS	Hope
	A. E. ANDREWS	Texarkana
Seventh District	*ROBERT F. McCRARY	Hot Springs
	CURTIS CLARK	Sheridan
Eighth District	WILLIAM S. ORR, JR.	Little Rock
	*W. PAYTON KOLB	Little Rock
Ninth District	*HENRY V. KIRBY	Harrison
	MORRISS M. HENRY	Fayetteville
Tenth District	KEMAL KUTAIT	Fort Smith
	*C. C. LONG	Fort Smith

*Senior Councilor

The Advertising policy of this JOURNAL is governed by the PRINCIPLES OF ADVERTISING of the State Medical Journal Advertising Bureau, Inc., by the Advertising Committee of the Bureau and by the Council of the Arkansas Medical Society.

EXCLUSIVE PUBLICATION—Articles are accepted for publication on the condition that they are contributed solely to this JOURNAL.

COPYRIGHT 1975—By the JOURNAL of the Arkansas Medical Society.

NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

Proceedings 1

SCIENTIFIC ARTICLES

The Hot Springs Medical Journal
Revisited Its First Year, 1892 53
Ronald D. Greenwood, M.D.

The Management of Acute
Genitourinary Infections 57
John F. Redman, M.D.
and Nabil K. Bissada, M.D.

Stabismus for the General
Practitioner 62
T. Dale Alford, M.D.
and Mary Wackerhagen, Orthoptist

FEATURES

Office Orthopaedics: "Dupuytren's
Contracture" 67
Kenneth G. Jones, M.D.

Electrocardiogram of the Month 72
Robert T. Bulloch, M.D.

Arkansas Public Health At a Glance,
"The Outreach Program" 73
Vivian Jones, Bernice Adair,
and A. S. Fitzhugh, M.D.

Editorial, "The Mayo Clinic Reviews
Lupus Erythematosus" 75
Alfred Kahn, Jr., M.D.

Medicine in the News 77

Resolutions 82

Personal and News Items 83

Obituary 83

New Members 84

Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72901. Published monthly under direction of the Council, Arkansas Medical Society, Volume 72, No. 1. Subscription \$2.00 a year. Single copies 50 cents. Entered as second class matter, May 1, 1955, in the post office at Little Rock, Arkansas, under the Act of Congress of March, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 1, 1918. Second-class postage paid at Little Rock, Arkansas.



T. E. TOWNSEND

Pine Bluff

President

Arkansas Medical Society

1975-1976

PROCEEDINGS

99th Annual Session

ARKANSAS MEDICAL SOCIETY

Arlington Hotel, Hot Springs

April 20-23, 1975

**First Meeting
HOUSE OF DELEGATES**

The first meeting of the House of Delegates was called to order at 1:05 P.M. by Speaker Amail Chudy. Invocation was by W. Payton Kolb.

The Executive Vice President, Mr. Schaefer, called the roll of delegates. The following delegates, officers, and members seated as delegates by action of the House were present:

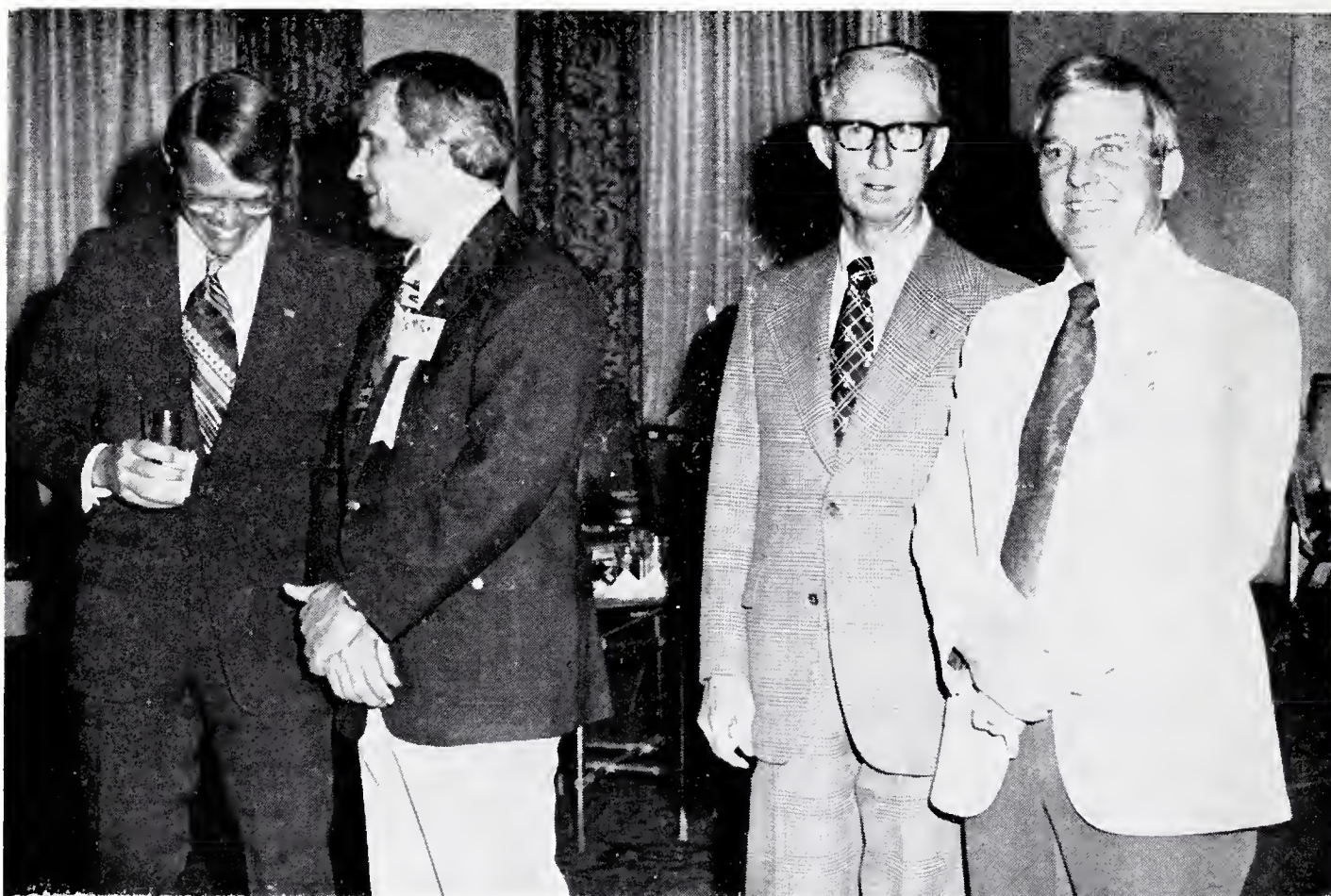
ARKANSAS, R. H. Whitehead; ASHLEY, Donald Toon; BAXTER, John F. Guenther; BOONE, Mahlon Maris; BRADLEY, George F. Wynne; CLARK, R. Jerry Mann; CLEBURNE, William M. Wells; COLUMBIA, C. L. Weber; CRAIGHEAD-POINSETT, James W. Sanders, Joseph Wilson; CRAWFORD, F. E. Shearer; CRITTENDEN, Milton Deneke; DESHA, Howard Harris; DREW, John P. Price, J. J. Magic; GARLAND, Robert Hill, John Brunner, Frank Burton; GREENE-CLAY, Larry Lawson; HEMPSTEAD, Jim McKenzie; INDEPENDENCE, Jim E. Lytle; JEFFERSON, C. M. Rittelmeyer; JOHNSON, Boyce West; LAFAYETTE, Robert C. Patton; LAWRENCE, Ralph Joseph; LEE, D. W. Gray; MILLER, Donald Duncan; MISSISSIPPI, M. J. Osborne; MONROE, N. C. David; OUACHITA, Cal Sanders; POPE, James Kolb, Joe Lyford; PULASKI, Edgar Easley, Raymond Biondo, Curry Bradburn, James Weber, Paul Cornell, Frank Westerfield, Robert Dickins, Ashley Ross, Winston Shorey, Philip Deer, David Newbern, Harold Purdy, George Mitchell,

Harold Hutson, Ray Jouett, Thomas Bruce, Joe Norton, Purcell Smith; SALINE, Helen Rountree; SEBASTIAN, Carl Williams, Ken Lilly, W. P. Phillips, Kemal Kutait, Hugh Lewing, Carl Wilson; ST. FRANCIS, E. Morgan Collins; UNION, George W. Warren, Wayne Elliott; VAN BUREN, John A. Hall; WASHINGTON, E. Mitchell Singleton, James D. Mashburn; YELL, James Maupin; COUNCILORS, Eldon Fairley, John Kirkley, Paul Gray, John Bell, L. J. Pat Bell, Fred C. Inman, Raymond Irwin, John P. Burge, J. B. Jameson, John H. Moore, Karlton Kemp, C. Lynn Harris, Robert F. McCrary, Curtis B. Clark, W. Payton Kolb, William S. Orr, Jr., Henry V. Kirby, Morris Henry, C. C. Long, A. S. Koenig; PRESIDENT Ben Saltzman; PRESIDENT-ELECT T. E. Townsend; FIRST VICE PRESIDENT G. Thomas Jansen; SPEAKER Amail Chudy; VICE SPEAKER Charles F. Wilkins, Jr.; SECRETARY Elvin Shuffield; TREASURER Kenneth R. Duzan; PAST PRESIDENTS Joe Verser, C. Lewis Hyatt, L. A. Whittaker, Joseph Norton, H. W. Thomas, Ross Fowler, Jack Kennedy, Robert Watson, and John Wood.

Ken Lilly, James Weber, and Paul Cornell served as the credentials committee for the House. James Weber reported for the House that a quorum was present.

Vice Speaker Charles Wilkins welcomed the newly-chartered component society — the Yell County Medical Society.

With Vice Speaker Wilkins presiding, the



Mr. Bob Shoptaw, George Mitchell, Mr. Herkie Gardner, and Mr. Bill Presson were some of the Blue Cross-Blue Shield people at the cocktail party which Blue Cross-Blue Shield hosted for the Society on Monday evening.

House approved minutes of the 98th Annual Session as published in the June 1974 issue of the Journal of the Arkansas Medical Society.

The House also approved the minutes of the House of Delegates meeting held November 24, 1974, as published in the January 1975 Journal.

Speaker Chudy introduced the student representatives present: Charles Mabry of the Senior Class; Gary Barger and Bill Dudding of the Junior Class.

Mrs. Howard Liljestrand, President of the Woman's Auxiliary to the American Medical Association, was introduced by Speaker Chudy. Mrs. Liljestrand spoke briefly regarding activities of the Auxiliary.

Speaker Chudy also introduced to the House the current President of the Woman's Auxiliary to the Arkansas Medical Society, Mrs. Curry Bradburn of Little Rock.

Speaker Chudy called on Society President Ben Saltzman to introduce the President-elect of the American Medical Association, Max Parrott of Portland, Oregon. Dr. Saltzman and Dr. Parrott were classmates at the University of Oregon School of Medicine. Dr. Parrott addressed the

House regarding malpractice insurance, government encroachment on the practice of medicine, and the intramural problems of the American Medical Association.

Ben N. Saltzman made his "President's Address" to the House. The address, entitled "The Year That Was," appears elsewhere in this issue of the Journal.

Dr. Saltzman presented a check to the University of Arkansas School of Medicine on behalf of the American Medical Association's Education and Research Foundation. The check presented to Dean Thomas A. Bruce was in the amount of \$8,979. Dr. Saltzman gave special recognition to the Woman's Auxiliary for their efforts in raising funds for AMA-ERF.

T. E. Townsend introduced a special guest, Nym L. Barker of Paris, Texas, president-elect of the Texas Medical Association.

Speaker Chudy called for reports from committees, either as supplements to published reports or additional reports.

John P. Wood, chairman of the Sub-Committee on Liaison with Vocational Rehabilitation, reported on activities of his committee. He re-

ported that the committee had met with representatives of the Rehabilitation Services about ten days ago at their request. The Rehabilitation Services is again short of funds in the last months of their fiscal year. The Rehabilitation Service cites the increasing fees charged by physicians under the "reasonable and customary" payment arrangements as one of the reasons for the present financial situation. The Rehabilitation Service asked that a maximum limit be set on fees to provide the maximum number of services to the handicapped people of the state. Dr. Wood reported that his committee approved setting a maximum fee schedule based on the California Relative Value Scale and that the Rehabilitation Service anticipates implementation of the change within the next six months. The Rehabilitation Service does not have funds at present and funds for services will not be available until July.

In introducing the chairman of the Legislative Committee for his report, Speaker Chudy made the following remarks:

"Ladies and Gentlemen, I think the word 'thanks' is used very frequently in our vernacular and many times when we say thanks it is a little bit superfluous. Perhaps it comes off the top of the hat or just a mere way of being a lady or a gentleman. We in this Society are extremely grateful and I think each and every one of us stands with a lot of praise and admiration for the man that I will introduce next. How does he find the time? If you have never seen him work, you have missed something. I have never seen such a gentleman work, hold his ground, and accomplish what he sets out to do. It is indeed a great pleasure that I ask Elvin Shuffield to stand and give us a report of the Legislative Committee." Dr. Shuffield received a rousing ovation from the members of the House. The report of the committee follows the minutes of this meeting of the House; it was referred to Reference Committee Number Two for consideration.

Speaker Chudy expressed thanks to the Society's legislative counsel, Mr. Eugene Warren, for the excellent work that he does on behalf of the Society. The House gave Mr. Warren a standing ovation.

Speaker Chudy introduced his daughter, Amelia, who was attending the House to have a



J. W. Morris, McCrory, was honored by the Fifty Year Club. Dr. Morris is 100 years of age.

better understanding of the position held by her father.

Speaker Chudy called the attention of members of the House to the resolution from Union County Medical Society which had been distributed and advised that the resolution had been referred to Reference Committee Number One.

Speaker Chudy announced open hearings of the reference committees and urged members to attend the hearings to participate in the discussion of the various items of business.

Vacancies on the State Board of Health and the State Medical Board were announced by Speaker Chudy and members from the districts concerned were urged to attend meetings to select nominees for the various vacancies.

Meetings were held on the floor to select district representatives to the Nominating Committee. Selected were M. J. Osborne, Jim Lytle, Morgan Collins, John P. Burge, John H. Moore, Donald Duncan, Robert McCrary, Curry Bradburn, Ross Fowler, and Ken Lilly.

The first meeting of the House adjourned at 2:50 P.M.

The Centennial Parade



T-Steppers from the Hot Springs High School Band carried the Society banner for the parade.



G. Allen Robinson, Secretary of the Fifty Year Club, W. A. Hudson, and J. W. Morris (who is 100) rode in antique cars in the parade.



C. C. Long, Chairman of the Council, was one of the participants in the parade.

The Centennial Parade



The Arkansas Cancer Society provided a float for the parade.



Max Parrott of Portland, Oregon, President-elect of the American Medical Association, was a guest of the Society during the meeting and rode in the Centennial Parade.

**THE YEAR THAT WAS, 1974-75
ADDRESS OF THE PRESIDENT**

Ben N. Saltzman, Little Rock

This has been an interesting and exciting year for me. From the moment of my inauguration to the present time, there has been a continuous progression of events that has been punctuated with climaxes and near climaxes that bespeak an interesting future for my successor, Dr. Tom Ed Townsend.

Dr. Max Parrott, President-elect of the American Medical Association, and I were classmates at the University of Oregon School of Medicine. When we graduated, I had no idea that we would speak from the same platform at the annual session of the Arkansas Medical Society. I thought that he was smarter than I at that time. He proved it when he was elected to the highest office in American Medicine. However, I don't believe that he could have been any prouder than I am at this time in the knowledge that you would have me as President of the Arkansas Medical Society. I tried to keep out of trouble as well as I could and at the same time represent you in all the things I was supposed to do.

When I took office, I assumed that most of my duties would concern themselves with local, county and district medical society activities. I was certain that I would be called all over the state to speak to groups of physicians about the problems of organized medicine. I even wondered if this would interfere with my practice. You won't believe this, but my speaking engagements in the counties totaled four, and the subject matter dealt with my new job. I think that most of you know about the job, but I'll tell you anyway.

One week after my inauguration, I flew to Oklahoma City to attend the inauguration of the President of the Medical Association of Oklahoma. While there, I sustained a myocardial infarction which immediately took care of all future pilotage. Fortunately, this came at a time when most medical activities were at a low ebb. I didn't miss a single meeting, though my practice was paralyzed for three months. Upon returning to work, I found that my enthusiasm for delivering babies and getting up at all hours of the night for the real and imagined emer-

gencies had diminished, although I still received phone calls and I still went.

Dr. Tom Bruce, the new Dean of the School of Medicine, talked to me during a meeting of the Medical School Loan and Grant Committee for Rural Practice and suggested that I might be more effective teaching residents in Family Practice than exposing myself to the possibility of a recurrence. He made sense. Now I am an educator with the title of Professor and Chairman of the Department of Family and Community Medicine at the University of Arkansas Medical Center. The whole procedure reminded me of my Army experiences during World War II. Specialties were assigned as an act of Congress. However, I have not regretted the change. Believe me, I can talk about Family Practice with the best of them. But really, I would have liked to talk about organized medicine.

However, the year was not a loss. I found myself involved with every health planning agency in the state. Your president serves on the executive committees of the Regional Medical Program's Advisory Group and the Arkansas Health Systems Foundation. He heads the Emergency Medical Services Sub-committee and serves on the Medical Services Review Committee for Medicare. He also participates on several sub-committees of the State Health Planning Agency. Because of his position he is asked to meet with committees of the Arkansas State Nurses Association, the Arkansas Hospital Association and numerous committees of the Arkansas Medical Society. He is asked to speak to many diverse groups, to legislators and to civic organizations. At all times he must walk a fine line on which he attempts to express the opinions of the members of the Arkansas Medical Society rather than his own opinions. Have you ever tried to express the opinions of Arkansas Medicine collectively?

I got into trouble with the Executive Committee only one time. This was rectified with the help of the Committee. Now that I look back on it all I wonder how I was so lucky.

Reading through the annual committee reports of the Arkansas Medical Society, I realize now that there was considerable activity in the state and in the Society. I am also surprised to find that I was involved in much of the activity.



Dr. and Mrs. Nym L. Barker were present for the convention. Dr. Barker is a graduate of the University of Arkansas School of Medicine and is currently president of the Texas Medical Association.

Dr. Charles Henry has done much as chairman of the Committee on Cancer Control in liaison with the Arkansas Division of the American Cancer Society. I was involved in many of the meetings that resulted in resolutions urging the involvement of private physicians in screening for cervical cancer and promoting the extension of screening to employee groups, state fairs and wherever women are at risk.

Dr. William Orr as chairman of the Sub-committee on National Legislation has promoted the recommendation that all members of the Society be kept informed on all aspects of legislation affecting the physicians of our state. He is grateful to the staff of the State Office for its effective work and urges full support of Ark-Pac and Am-Pac.

I have exercised the privilege of permitting myself to continue as Chairman of the Committee on Public and Rural Health. Our physicians in all the Councilor Districts have cooperated in judging and awarding recognition plaques to young people in 4-H work interested in health activities. Dr. Cliff Long continues as an effective member of the Council on Rural Health of the AMA. Our committee has been effective in carrying out the recommendations of the Council. We have enjoyed close liaison with the State Health Department and have participated in the V.D. alliance. The Health Officer meets with the Council of the AMS. Dr. Rex Ramsay is Acting Director of the Health Department at present.

Dr. Payton Kolb has been pushing for complete mental health coverage in any National

Health Insurance plan. As Chairman of the Committee on Mental Health, his voice has been heard.

The Sub-committee on Traffic Safety under Dr. Carl Williams has recommended continuation of the 55 mile per hour speed limit and has been effective in supporting legislation for the development of emergency medical services and systems.

Our immediate past president, Dr. John Wood, as Chairman of the Sub-committee on Liaison with Vocational Rehabilitation, has worked cooperatively with the State Office on Vocational Rehabilitation. He has noted that there has been increasing acceptance by employers, of physically and mentally handicapped persons. He has expressed strong support for the Spinal Cord Task Force program being developed in the state. Over 1,100 physicians are working with Vocational Rehabilitation.

Dr. Lee Parker, Jr., continues to be most effective in his role as Chairman of the Committee on Medical Education. He has requested AMA inspection so that the Society's Continuing Education programs can be approved for Category I credit. He is also seeking AMA inspection of the University of Arkansas' School of Medicine Continuing Education Program. He is attempting to involve the Arkansas Educational TV network in continuing education.

The Public Relations Committee under Past-President Joe Norton has helped publicize the Arkansas Opportunity Fair held at the Medical Center, the 100th Anniversary Celebration of the Arkansas Medical Society, the 4-H O-Ramas previously mentioned, the VD program and the Medix program, a weekly public health TV series.

Dr. Harry Hayes, Jr., as Chairman of the Committee on Insurance, has had his hands full. You are all aware of the malpractice insurance problem in our state. Dr. Hayes has involved the entire Executive Committee, the Insurance Commissioner, the Council and anyone who would listen. Much has been done, but there is much still to do. This has probably been our most serious problem this year.

Dr. Ken Lilly as Chairman of the Committee on Medicine and Religion held an excellent prayer breakfast at the last annual meeting. It

was well attended, but it conflicted with many other meetings. He hopes to involve the ministerial alliance in some joint venture in the future.

Past-President Robert Watson has chaired the Physician-Nurse Joint Practice Commission. I have had the pleasure of meeting with this group fairly frequently. An attempt is being made to clarify the role of the Nurse-Practitioner. Input from other members of the health team indicate that they can be effective members of the health team.

Our excellent Journal Editor, Dr. Alfred Kahn, Jr., serves as Chairman of the SAMA Liaison Committee. He has prepared a thorough report that should be read by all members of the Society. The Committee's concerns with the present expansion in the number of students at the Medical Center and the paucity of facilities for such expansion require thoughtful consideration. My present position at the Medical Center make these concerns mine also. Actually, all physicians should be thinking of the future of health care in the state. Our medical students are the future physicians. They need our help now. We'll need their help later. Read the report.

Past-President Dr. Ross Fowler as Chairman of the Medical School Committee of the Society has stated the importance of teaching Family Practice in the Medical School. We are expanding our program at the present time to facilitate the training of our residents. As soon as this program becomes stable, we will extend our teaching to medical students. The Dean and the Vice President are committed to making this Department a major one at the Medical Center. Dr. Fowler is also committed to removing the Five Area Fee Categorization for Medicare from this state. He seeks the help of all physicians.

Dr. Ken Lilly heads an Ad Hoc Committee to repeal or amend PSRO. He believes that the public as well as the physicians should be involved in this effort.

Dr. Charles F. Wilkins, Jr., has chaired the Medical Services Review Committee in matters related to Medicare, Champus and Blue Cross-Blue Shield for some time. The Executive Committee of the AMS serves also on this committee.

The committee has done a remarkable job for many years under different names. It has been most effective in Utilization Review and Quality Care determinations. The committee is living proof that physicians can police themselves effectively. Dr. Wilkins believes that some of its functions will be taken over by the PSRO mechanism, but it will continue to serve in those areas not covered by PSRO.

The Council of the Arkansas Medical Society has been active this past year under the leadership of its Chairman, Dr. Cliff Long. It has acted in the best interests of the membership of the Society and I have been proud to participate in its deliberations.

Dr. Elvin Shuffield, Chairman of the Legislative Committee, has been more effective than ever during this past legislative session. It has been a revelation to me to watch him and our attorney Mr. Eugene Warren work for the benefit of the medical profession in our state. Uppermost in Dr. Shuffield's mind, however, is what would best benefit the people of our state.

Dr. Morris Henry, our State Senator, has also benefited the Society, the Medical Center and the people of the state. We are wonderfully well served.

I cannot close without expressing my appreciation to our Executive Vice President Mr. Paul Schaefer and his excellent staff. They have made the job interesting and pleasurable. In all my dealings with people over the state, in the health related professions and in all services concerned with the welfare of the people, I have been afforded every courtesy and kindness possible. I have been proud to represent a group of people who have and who deserve the respect of all, the physicians of Arkansas.

The proudest moment of my life occurred when John Wood administered the oath of office to me. The humblest moment will be experienced when I turn over the reins of office to Tom Ed Townsend. There was so much to do, and I did so little. Thomas Carlyle once said, "Men do less than they ought, unless they do all that they can." The year has slipped rapidly away. I don't believe that I did all that I could have done. But this I promise you. I will continue to work for organized medicine as long as you will let me.

RESOLUTION FROM UNION COUNTY MEDICAL SOCIETY

SUBJECT: *HEW Rules and Regulations Concerning Medicare Participation.*

Whereas, Congress has enacted the "Medicare Law" providing for the care of elderly and disabled citizens and has established the Department of HEW with discretionary power for administration of said law, and

Whereas, the Department of HEW has continued during the past eight years to cause rules and regulations to be implemented which have progressively encroached on the area of professional decision making in regard to care of patients, and

Whereas, recent regulations have been published in the federal registry by HEW which would further intrude regulatory and abusive power in a manner that would be disruptive to the patient-doctor relationship, and

Whereas, we as physicians have attempted to cooperate during these years with these imposed "guidelines" and regulations in order to provide the finest medical care available, only to receive continuing interference by further regulatory measures, and

Whereas, these interferences in the practice of medicine are specifically prohibited by the opening paragraphs of the Medicare Law, and the Medical Staffs of our community hospitals have recognized by resolution that participation in the required Professional Standards Review Organization would constitute a breach in medical ethics, and

Whereas, the code of ethics of the American Medical Association specifically declares it to be unethical for physicians to accept responsibility for patient care in any situation that would compromise or jeopardize the physicians' freedom and ability to treat and care for his patients, and

Whereas, the Constitution of the United States limits the licensing power of practicing physicians to the various states, and

Whereas, recent PSRO and HEW regulations are primarily aimed at restrictions in regard to health care for patients, establishing mechanisms for punitive actions against physicians, and devoted to controlling cost of care rather than attempting to insure improved quality of health care, then

BE IT RESOLVED, that the Union County Medical Society go on record as being opposed to the proposed program for so-called utilization and review control, and

BE IT FURTHER RESOLVED, that this resolution be sent to the House of Representatives and Council of the Arkansas Medical Society and to appropriate governmental agencies as well as to the local community hospitals.

FURTHER BE IT RESOLVED that the Union County Medical Society enter a resolution at the upcoming convention of the Arkansas Medical Society directing the introduction of a resolution at the next meeting of the American Medical Association to cause the Judicial Council of the AMA to define or re-define the ethics of physicians' participation in all third-party medical activities, including participation in PSRO type utilization review and in all types of systems in which financial agents of patients require disclosure of patients' medical affairs.

REPORT OF THE LEGISLATIVE COMMITTEE

Elvin Shuffield, Chairman

Thank you, Mr. Speaker, Mr. President, Officers and Members of the House of Delegates and members of the Arkansas Medical Society.

Your Legislative Committee wishes to thank all of you who served in the Senate Infirmary during the past session of the past Legislature and we especially thank those of you who responded to our calls of need and in turn, called or wrote to your specific Legislator.

This has been one of the most difficult years that Mr. Warren and I have encountered. We spent more hours testifying at this session than we have ever spent before and I believe we have had more controversial subjects than we have had before. We are very happy to report that we were successful in most of our endeavors in trying to carry out the will and instructions of the House of Delegates. One of our most time-consuming and difficult bills was a House Bill 707, pertaining to Physicians Assistants and most of our problems stemmed from lack of information reaching the membership of this organization and misinformation being submitted to our doctors by our opponents. This bill passed the House but it was tabled in the Senate, so there has not been any significant change in your ability to hire and use any type of Physicians' As-



Ben N. Saltzman received a plaque of appreciation for his service to the Society.

sistant, nurse, aide or anyone else you would like to use in your practice.

The abortion bill required an extreme amount of debate and it was necessary for Mr. Warren to appear before the House of Representatives as a committee as a whole and present the reasons for needing a new abortion law. It will be recalled that the United States Supreme Court struck down the abortion law of the State of Arkansas and whether we like it or not, the court has ruled that in case of abortion during the first trimester, the problem is strictly between the patient and her doctor and if she wants the abortion and is willing to do it, then it is practically nobody's business. After the first trimester, then the decision of abortion now rests solely on the physician's judgment. A recent Massachusetts court decision though, will make a doctor think long and deep about arriving at a decision of abortion. No one individual legislator wanted to take the proposed abortion law for fear of the reactions in his individual respective community, but the Public Health Committee was very sympathetic towards our needs and cause, and they agreed to sponsor this proposal as a Com-

mittee Bill and it was in Committee for approximately two weeks giving the opponents an opportunity to amend or make suggested additions or deletions in the bill and then it came out of the Committee with a "Do Pass" and that is when the opponents came on the scene and started fighting this legislation. It is one's right to object to a bill on religious grounds, but when they start cluttering up a bill with unsurmountable obstacles and unnecessary rules and requirements, then this becomes another matter. After we saw what the intentions of the opponents were, then it was thought best just to pull this bill down and not try to cram this legislation through at this time, but as of now the people of Arkansas have no abortion law to protect them and our state is ripe and wide open for abortion mills. In all probability, we will have to go into court and get a court decree or whatever legal vehicle is necessary to resolve and work out this problem.

The House of Delegates instructed us to try to repeal the Duffey Amendment from the Medical Practices Act and we have gotten into one of the most stormy battles between ophthalmol-

ogists and optometrists and a more restricting legislation of the Duffey Amendment type was hung onto the Physicians' Assistant Bill and the Duffey Amendment Bill was passed through the Senate and got a "Do Pass" out of Public Health and then when called to the floor, it failed by 42 to 28, needing 51 votes to pass, and notice of reconsideration was given, but the bill was not called up so the ophthalmologists are still restricted in their use of their personnel.

In the early phases of the Legislature, House Bill 65 by Representative Glover would have required rather extensive changes in the Board of Admission to the University of Arkansas School of Medicine. This bill was modified with arbitration being given on both sides and ended up modified to the extent that it was acceptable by the University of Arkansas School of Medicine and the Board of Trustees. This bill will put more laymen and non-related personnel on the Admission Board and this is now Act 310.

House Bill 104 was a form of HMO that would have been very restrictive on the medical profession and it would have given some powers to the Insurance Commissioner that had never been granted before. This bill was objected to and the author graciously permitted us to sit down and work out a suitable bill and thanks to Mr. Warren, House Bill 638 was introduced and this HMO bill has very little restriction on the medical profession, but on the other hand greatly protects the people of this state from fly by night fast-promoting organizers who might come in, create an HMO, get all the premium money and take off. Unfortunately, under Federal HMO laws, there is no protection of this nature. Also, in the original bill, it was so worded that it would appear that only an insurance company could have set up an HMO and these factors have been eliminated and yet the insurance commissioner has adequate legal grounds now for enforcing and protecting people under organizations of HMO's. This is now Act 454.

House Bill 257 permitted doctors who have practiced 10 years or longer and are in good standing to come back to the state for the practice of medicine without having to take the Healing Arts Examination. This is now Act 158.

House Bill 381 would have allocated the first 100 freshmen medical students among the House Districts in proportion to the number of Repre-

sentatives for each district and this apparently died in Committee.

House Bill 444 pertained to marriage counselors. This bill was written in such a manner that a physician of any type could not counsel with his patient and fortunately this also died in Committee.

House Bill 519 was a bill pertaining to the creation of out patient surgical facilities provided they met with certain approvals. This is now Act 190.

Our Keogh legislation was up-dated to conform with the new Federal legislation.

House Bill 685 and Senate Bill 473 were companion bills designed to permit Arkansas citizens who go to Guadalajara and graduate to come back and be permitted to practice medicine if they meet certain criteria. The wording of these bills was somewhat peculiar and I do not know whether it was intentional or accidental, but in one place it would exempt them from taking the State Medical Board examination and in another place it would exempt them from taking the Basic Science or Healing Arts examination. Thanks to Dean Bruce, a system is being worked out whereby these men return, take examinations and if they show certain proficiency they may enter the University of Arkansas School of Medicine, graduate and then go through regular examination processes.

There were several generic drug bills introduced in the Senate and the House and we were permitted to amend these bills and were of the opinion that these bills have been fairly well emasculated to where it is mostly a permissive type of legislation. The amended legislation is now Act 457. We urge you to have printed on your prescriptions "Dispense as Written" and we do not feel that anyone would dare change this prescription without your approval.

House Bill 568 by Representative Kent Rubin from West Memphis was a new concept introduced by Mr. Rubin and this creates a malpractice pool. This is so designed that 262 companies that write various types of liability insurance in this state will have to take a doctor if he is refused malpractice insurance by other malpractice insurance writers. This concept is relatively new in the malpractice field and I understand that two other states have passed similar legislation, but I am told that their bills are not as good as

what has been passed in Arkansas. Apparently this concept is gaining in popularity because Mr. Rubin and Insurance Commissioner Monroe have been asked to appear before other State Legislatures and explain the concept. Mr. Monroe endorsed this legislation and assisted greatly in its passing and testified. Also, he is of the opinion that the rate under this concept may even be a little lower than regular rates, but that only remains to be seen. This is Act 698.

House Bill 1028 is an Administration Bill introduced by the Governor's office to help implement Public Law 93-604. This bill is designed for only minimal compliance and it will be in the Health Department but yet under the direct responsibility of the Governor. If you will recall, the federal regulation was designed to replace some of our old government agencies like RMP and Comprehensive Health, Arkansas Health Foundation Systems and agencies of that nature, but unfortunately, I am afraid that some of these same old structures are going to be revised and carry out the some old philosophies under a different heading. The number of this act was not available as of April 18, 1975.

Senate Bill 30 was a bill designed to put a consumer on all professional boards and apparently it died in the House Committee.

Senate Bill 148 provided hospitalization and medical insurance for newborn and this is now Act 298.

Senate Bill 236 and House Bill 560 were bills designed to protect members of the various professional commissions and committees of hospital staffs and PSRO and similar organizations. This is now Act 191.

Senate Bill 310 requires physicians to report to the State Medical Board claims of malpractice lawsuits. This is to help gain accurate statistics as to what is really going on in the malpractice field since we have been unable to get this information from either Aetna or St. Paul. This is Act 306.

Senate Bill 311 created a malpractice commission and this is to help arbitrate claims and seems to have potential of reducing the number of nuisance claims. This is supposed to be effective in about sixty days. This is Act 638.

There is a bill creating a spinal cord commission and this bill permits a lay committee to almost do anything they want to do with any-

body that has had a spinal cord injury. This is Act 311.

Senate Bill 401 is the Emergency Medical Technicians Bill. If you will recall, this started off as something like a 68-page bill and after a great number of re-writes this bill ended up about 4 pages and I think it is adequate. It is Act 435.

Ladies and gentlemen, this organization is at a point where we are going to have to make some decisions about what to do in the future, as far as legislation is concerned. This problem has become entirely too great for two of us to handle. The legislative structure is of such nature that sometimes there are two or more hearings going on on medically-oriented legislation and Mr. Warren and I can only cover one each, so sometimes we found ourselves having to jump up and run back and forth trying to cover three committee hearings. We have not received adequate and proper follow-up on letters and phone calls. For example, the chiropractors had a bill in for puncturing the skin for diagnostic purposes and we had only two doctors to show up to help us with this hearing. I would estimate that there were at least 75 chiropractors in the room and to a legislative committee, when only Dr. Saltzman and Dr. Chudy, Mr. Warren and myself were present, it looks as if the doctors are not interested. I know all of you are busy. It is time consuming, it is expensive, but nevertheless, we owe the public of this state certain obligations and we need to protect them from these untrained people. The chiropractors are very anxious to practice medicine. I believe the other gentlemen that were present that morning will confirm my remarks when I stated that it was interesting to see a clear line of division between men, say in the mid-forties and up who impressed us as wanting to strictly stick to manipulative procedures. But the young men from mid-twenties to mid-forties were very anxious to do exactly what you and I are doing towards practicing medicine. We had a difficult time in preventing these men from doing glucose tolerance tests. Had we given in for this one step, then they would have been right back for BUN's or any SMA's or any other blood test. Also, the wording of this law was of such nature that they could have tapped a plura, they could have done needle biopsies, they could have done spinal punctures,

just any procedure with a needle that they were big enough to do. These young men were equipped with books, pamphlets, charts to show where they had had more academic hours than we have had and when you are arguing with a bunch of laymen on these committees, you have a hard time disproving some of the statements that these chiropractors were prepared to make.

We need to have a panel of experienced, knowledgeable, educated men to talk against chiropractors next year. We are going to have to recruit men from the Medical Center in the educational field to prove that the chiropractor is not getting 4,000 some-odd hours of good basic medical training. Also, I think we are going to have to start orienting our courts that these men are not true physicians. If they want to practice medicine, then require them to take the same medical school training that we have, plus internship, any formal training that they want to take, plus the Basic Science, State Medical Board and if they pass, let them practice. I do not believe it is fair to our people of the state or to our doctors to permit men of such inferior education to pass themselves off as physicians.

On a number of other issues, we did not hear any response, with very few exceptions, pertaining to our requests. The legislators interpret this as disinterest or the legislation is not of any particular importance. If we cannot get our legislation out of the Public Health Committee, it can never get to the floor.

This is not a pleasant job and some of you

may wonder, "Well, why bother?". My answer is that we have a moral obligation to the people of this state to try to keep the practice of medicine on a good high plane.

The Constitutional Convention is to meet this summer and it is imperative that we have a constitutional amendment changing our constitution to where we can get better constitutional protection on malpractice suits or whether the constitution can be changed to where the laws may be passed to correct some of the deficiencies that prohibit us from getting better malpractice protection. The insurance committee of the House had Mr. Warren to draft a resolution to try to help us on this problem and Mr. Warren has drafted a resolution placing malpractice insurance in a similar fashion to workmen's compensation type coverage of insurance to see if this concept will help us with the overall problem. This type of coverage is debatable and as far as I know, no one has given it a trial in malpractice.

Ladies and gentlemen, in return for the privilege of practicing medicine in this state, our organization needs to do much more to protect the people and help our profession. Those of you who are active in civic clubs, I would like to urge you to try to get speakers to come before your group and explain why we need some of the legislation we have and also to show these people that chiropractors are not capable of practicing medicine.

Mr. Speaker, I move that this report be sent to a reference committee for consideration.



The Costume Ball



Mrs. George F. Wynne of Warren and Mrs. Gordon P. Oates of Little Rock were among those who attended the Tuesday evening party in dresses which were family heirlooms.



Dr. and Mrs. C. C. Long and Miss Leah Richmond of Fort Smith attended the Tuesday evening functions in "centennial dress."



This group of participants in the Costume Parade indicates the interest shown in this centennial activity.

The Costume Ball



The photographer did not get all costume parade participants in the group photos but there were some beautiful costumes in this group of a number of the parade participants.



The ladies on the headquarters staff were in "centennial dress" on Monday of the convention.

FINAL SESSION

HOUSE OF DELEGATES

Wednesday, April 23, 1975

Speaker of the House Amail Chudy called the House to order at 10:00 A.M. on Wednesday, April 23, 1975. Invocation was by Lewis Hyatt.

The Executive Vice President, Mr. Schaefer, called the roll of members. The following delegates, officers, and members seated as delegates by action of the House were present:

ARKANSAS, R. H. Whitehead; ASHLEY, Donald Toon; BAXTER, John F. Guenther; BOONE, Mahlon Maris; BRADLEY, George F. Wynne; CHICOT, Charles Blackmon; CLARK, R. Jerry Mann; COLUMBIA, C. L. Weber; CRAIGHEAD-POINSETT, James M. Robinette, James W. Sanders, Joe Verser; CRAWFORD, F. E. Shearer; CRITTENDEN, Milton Dencke; DALLAS, Don G. Howard; DREW, John P. Price; FAULKNER, J. J. Magie; GARLAND, Robert Hill; GREENE-CLAY, A. J. Baker; HOT SPRING, C. R. Ellis; INDEPENDENCE, Jim E. Lytle; JEFFERSON, Banks Blackwell, C. M. Rittelmeyer; JOHNSON, Boyce West; LAWRENCE, Ralph Joseph; LEE, D. W. Gray; LOGAN, Charles Chalfant; MILLER, Allie Andrews; MISSISSIPPI, M. J. Osborne; MONROE, N. C. David; POPE, James Kolb, Joe Lyford; PULASKI, Edgar Easley, Raymond Biondo, James L. Smith, Curry Bradburn, James Weber, Paul Cornell, Frank Westerfield, Robert Dickins, Winston Shorey, Purcell Smith, Fred Kittler, Ray Jouett, Mayne Parker, George Mitchell, Norton Pope, Eva Dodge, Robert Valentine, and Robert Watson; SALINE, James C. Bethel; SEBASTIAN, Carl Williams, Ken Lilly, W. P. Phillips, Kemal Kutait, Hugh Lewing, Carl Wilson; ST. FRANCIS, E. Morgan Collins; UNION, George W. Warren, Allan Pirnique; WASHINGTON, Tom D. Whiting, E. Mitchell Singleton, James Mashburn; YELL, James Maupin, and Medical Students, Interns and Residents, Larry L. Doss. COUNCILORS, Eldon Fairley, John B. Kirkley, Paul Gray, John Bell, L. J. P. Bell, Fred C. Inman, Raymond Irwin, John P. Burge, John H. Moore, C. Lynn Harris, Robert F. McCrary, Curtis B. Clark, W. Payton Kolb, William S. Orr, Jr., Henry V. Kirby, Morriss Henry, C. C. Long, A.

S. Koenig; PRESIDENT T. E. Townsend; FIRST VICE PRESIDENT G. Thomas Jansen; SPEAKER Amail Chudy; VICE SPEAKER Charles F. Wilkins, Jr.; SECRETARY Elvin Shuffield; TREASURER Kenneth R. Duzan, and PAST PRESIDENTS H. King Wade, Jr., Joe Verser, C. R. Ellis, C. Lewis Hyatt, H. W. Thomas, Ross Fowler, Robert Watson, John Wood, and Ben Saltzman.

Speaker Chudy called for the Report of the Nominating Committee. The report was presented as follows:

REPORT OF THE NOMINATING COMMITTEE

Robert F. McCrary, Chairman

Your Nominating Committee consists of M. J. Osborne, Jim Lytle, Morgan Collins, John Burge, John Moore, Donald Duncan, Curry Bradburn, Ross Fowler, Ken Lilly and Robert McCrary as chairman.

The Committee met three times — at 8:45 A.M. on April 21, at 8:45 A.M. on April 22, and at 12:30 P.M. on April 22nd. We submit the following nominations:

For President-elect: A. S. Koenig, Fort Smith; W. Payton Kolb, Little Rock.

For First Vice President: Asa Crow, Paragould.

For Second Vice President: Mahlon Maris, Harrison.

For Third Vice President: Donald Duncan, Texarkana.

For Secretary: Elvin Shuffield, Little Rock.

For Treasurer: Kenneth R. Duzan, El Dorado.

For Speaker, House of Delegates: Amail Chudy, North Little Rock.

For Vice Speaker, House of Delegates: Charles F. Wilkins, Jr., Russellville.

For Councilors:

First District: Eldon Fairley, Osceola .

Second District: Paul Gray, Batesville.

Third District: Fred C. Inman, Jr., Carlisle

Fourth District: Raymond A. Irwin, Pine Bluff.

Fifth District: John H. Moore, El Dorado.

Sixth District: Allie Andrews, Texarkana.

Seventh District: Curtis Clark, Sheridan.

Ninth District: Morriss Henry, Fayetteville.

Tenth District: C. C. Long, Ozark.

For Delegate to the AMA: Purcell Smith, Little Rock.

For Alternate Delegate to the AMA: T. E. Fownsend, Pine Bluff.

For Member-At-Large position on the State Board of Health: William S. Orr, Jr., Little Rock; Wayne G. Elliott, El Dorado; J. Warren Murry, Fayetteville.

Dr. McCrary moved that this portion of the report of the committee be accepted.

Several members of the House spoke regarding the Report of the Nominating Committee. Vice Speaker Wilkins spoke briefly, stating that the slate included two outstanding and eminently-qualified physicians as candidates for president-elect but that he did not speak for either. He requested that a positive approach be taken and that nothing divisive be done. He urged the members to unite behind the president and the new president-elect for the good of the Arkansas Medical Society.

Carl Williams of Sebastian County spoke briefly to second the nomination of A. S. Koenig for president-elect.

Past President H. W. Thomas spoke reiterating the comments of Dr. Wilkins and stating that he would like to be in the position of seconding the nomination of both candidates for president-elect. He seconded the nomination of Dr. Koenig and stated that he looked forward to the time when he could second the nomination of Dr. Kolb.

Boyce West of Johnson County spoke in favor of the nomination of Dr. Koenig.

G. Thomas Jansen of Pulaski County spoke supporting the nomination of Payton Kolb.

C. R. Ellis spoke seconding the nomination of Dr. Koenig.

Speaker Chudy called for nominations from the floor. Upon the motion of Orr, it was voted to close nominations for the position of president-elect.

Speaker Chudy appointed a tellers committee consisting of H. King Wade, C. Lewis Hyatt and C. R. Ellis.

While ballots were being tabulated, the House proceeded with nominations from the floor for officer positions. There were no nominations from the floor and the following were elected by acclamation:

For First Vice President: Asa Crow, Paragould.

For Second Vice President: Mahlon Maris, Harrison.

For Third Vice President: Donald Duncan, Texarkana.

For Secretary: Elvin Shuffield, Little Rock.

For Treasurer: Kenneth R. Duzan, El Dorado.

For Speaker: Amail Chudy, North Little Rock.

For Vice Speaker: Charles Wilkins, Jr., Russellville.

For AMA Delegate: Purcell Smith, Little Rock.

For Alternate Delegate to AMA: T. E. Townsends, Pine Bluff.

The House also unanimously approved the nominations for the Member-At-Large position on the State Board of Health: William S. Orr, Jr., Little Rock; Wayne G. Elliott, El Dorado; Warren Murry, Fayetteville.

Speaker Chudy recognized Raymond Biondo of Pulaski County who suggested a standing ovation for the headquarters staff. Mr. Schaefer responded on behalf of the staff, calling the attention of the House to the fact that it is better to have an "organization" in its headquarters office rather than a "one-man operation."

Speaker Chudy then asked the House to name Assistant Executive Vice President Leah Richmond as "Sweetheart of the Centennial Meeting."

Speaker Chudy received the reports of the Tellers Committee and advised the House that A. S. Koenig had been elected to the position of president-elect. Speaker Chudy asked Delegates Ken Lilly and Kemal Kutait to escort the new president-elect to the rostrum.

Dr. Koenig addressed the House as follows:

"All of you, my friends, this is a very humbling experience for me. Thank you all for your confidence. I hope that as the year goes on, I can justify the honor that you have bestowed on me. Thank you very much."

Purcell Smith of the Pulaski County delegation congratulated Dr. Koenig and extended best wishes to him.

Speaker Chudy then read the slate of nominees for councilors as selected by the Nominating Committee:

First District: Eldon Fairley, Osceola.

Second District: Paul Gray, Batesville.

Third District: Fred C. Inman, Jr., Carlisle.

Fourth District: Raymoud A. Irwin, Pine Bluff.
 Fifth District: John H. Moore, El Dorado.
 Sixth District: Allie Andrews, Texarkana.
 Seventh District: Curtis Clark, Sheridan.
 Eighth District: Curry Bradburn, Little Rock.
 Ninth District: Morriss Henry, Fayetteville.
 Tenth District: C. C. Long, Fort Smith.

Dr. Bradburn requested that his name be withdrawn from the slate and nominated W. Payton Kolb of Little Rock for the Eighth Councilor District position.

Dr. Koenig noted that his election to the position of president-elect created a vacancy in the tenth councilor district position he had held and nominated Dr. Kemal Kutait of Fort Smith to fill the unexpired term of tenth district councilor.

The revised slate of nominees for councilors was unanimously elected by the House.

Speaker Chudy then recognized Payton Kolb, who addressed the House as follows:

"I congratulate Dr. Koenig very much. I have spent some sleepless nights. Something is coming up that I think we ought to think about for this year. Many of you know that I have been very active in the American Psychiatric Association. I have been in the Assembly for nineteen years, I have been on the Executive Committee for six years representing fourteen southern states, and I have been Recorder for the last two years. Now I tell you that I am candidate for speaker-elect, which is equivalent to the House of Delegates of the AMA except that it is on a smaller basis. Something has been going on with us for four years. Now, I did not particularly want to make a race or to have a floor fight, so to speak, with Dr. Koenig, not at all. Dr. Koenig and I have been friends for a long time. What we have seen at a national level in our association is, I believe, happening here.

"The Pulaski County people will verify that I am all for pushing the younger members of our Society. I think we need them, we need their enthusiasm, we need their energy. I am not sure in my own mind exactly what the best way is for electing officers, but my understanding from the Nominating Committee this time is that there is a feeling it is more democratic to have multiple nominations. You know what our tradition has been; you know what our Constitution calls

for. It was on this basis that I was agreeable to going along in a race with Dr. Koenig. So, maybe this is the best way. Younger people are pushing this. As I say, I am getting it in the American Psychiatric Association. I have seen some good men who have not won elections in that organization. Many of you know Dr. Hayden Donahue who used to be the Assistant Superintendent of our State Hospital; there is no one who knows the American Psychiatric Association like he does — he was treasurer for a number of years — he is a wonderful fellow. He was defeated for president-elect year before last in this situation. But I am for the democracy of this. Whichever system is best, whether we went back to what we did before or what we did today, this was my purpose in making a race for it. I love Sebastian County, I am all for you, and we are going to work together — we've got to work together, certainly. Tom Ed, I think we've got more than malpractice facing us, we psychiatrists are being brought into something and that is a question of whether your patients are going to be reading your records in two or three years under court orders. There are other things like this, we've got a lot of work ahead of us. But I did want to make this one statement that I think we need to think about and that is whether it will be more democratic to do as we did today in this meeting and have multiple nominations and let the House of Delegates pick the man they want."

Dr. Koenig responded to the remarks of Dr. Kolb by asking, "Payton, may I shake your hand?"

Speaker Chudy advised the House that Raymond Holden, Vice Chairman of the AMA Board of Trustees, was ill and could not attend the meeting as planned. Dr. Holden had furnished Dr. Saltzman with a copy of his paper and the paper was then read to the House by Dr. Saltzman. The paper emphasized what the AMA does for its members, the need for uniting together to accomplish its goals, and the current financial situation of the organization.

Upon the motion of Dr. Saltzman, the House voted to write Dr. Holden extending the Society's best wishes and thanking him for his paper.

Speaker Chudy called for reports of the Reference Committees. The report of Reference Committee Number 1 was approved by the House as presented:

PROCEEDINGS



Officers of the Medical Auxiliary for 1975-76 include (from left) Mrs. Curry Bradburn, Little Rock, president; Mrs. Carl Wilson, Fort Smith, president-elect; Mrs. George Collier, Paragould, vice president; Mrs. McDonald Poe, Fort Smith, vice president; Mrs. Deno Pappas, Hot Springs, vice president; Mrs. Walter Mizell, Benton, treasurer; and Mrs. Kent Smith, Fort Smith, recording secretary.



Past Presidents of the Auxiliary met for breakfast on Tuesday morning. Present were (standing, left to right) Mrs. Jack Kennedy, Mrs. Frank Padberg, Mrs. William Hibbits, Mrs. C. D. Burnoughs, Mrs. Harold Langston, Mrs. John McC. Smith, Mrs. James W. Branch, Mrs. Carl Parkerson, Mrs. W. Myers Smith, Mrs. Louis Hundley, Mrs. C. Lynn Harris, Mrs. A. A. Little, (seated, left to right) honorary member Mrs. Paul Schaefer, Mrs. Mason G. Lawson, Mrs. Charles F. Wilkins, Mrs. Gordon P. Oates, Mrs. C. W. Jones, and Mrs. Art B. Martin.



Past Presidents of the Auxiliary entertained members at the cocktail party on Monday evening. Participating in the presentation of "You've Come a Long Way, Baby," were Mrs. W. Myers Smith, Mrs. C. W. Jones, Mrs. Art Martin, Mrs. Frank Padberg, Mrs. Lynn Harris, Mrs. Charles Wilkins, Mrs. Harold Langston, Mrs. William Hibbits, Mrs. A. A. Little, Mrs. Jack Kennedy, and Mrs. Gordon P. Oates.

REPORT OF REFERENCE COMMITTEE NUMBER ONE

C. Lewis Hyatt, Chairman

Mr. Speaker and members of the House of Delegates: Your Reference Committee gave careful consideration to the items referred to it and makes the following report:

1. Committee on Rural Health — There was no discussion on this report. The Reference Committee recommends that this report be accepted as published. Mr. Chairman, I so move.

2. Committee on Mental Health — There were no added comments by members or those present at the hearing and the committee chairman had no particular comments concerning the report. The Reference Committee recommends that this report be accepted as published. Mr. Chairman, I so move.

3. Sub-Committee on Liaison with Vocational Rehabilitation — Discussion of the report brought out that each physician should inform himself of the dollar value of the fee schedule as given by the Relative Value Scale and either accept it or reject it prior to the performance of the procedure. The Reference Committee recommends that this report be accepted as published and amended with supplement presented orally on Sunday. Mr. Chairman, I so move.

4. Medical Services Review Committee — No comments were heard on this report. The Reference Committee recommends that the report be accepted as published. Mr. Chairman, I so move.

5. Professional Relations Committee — Our Committee considered reports of the First, Fourth, Eighth, Ninth and Tenth Districts. There was no discussion of the reports by those present and the Reference Committee recommends that the reports be accepted as published. Mr. Chairman, I so move.

6. Report of the AMA Delegate — The Committee heard discussion by Purcell Smith, AMA Delegate, regarding the liability insurance situation and other matters. There was no further discussion and the committee recommends approval of the report as published in the Journal. Mr. Chairman, I so move.

7. Report of the State Medical Board — Mr. Mabry, Student Representative to the Arkansas Medical Society, discussed the problem of the Healing Arts Board and tests involved. It was unanimously decided that the Arkansas Medical

Society has no jurisdiction over this particular problem and it is recommended that this report be accepted as published in the Journal. Mr. Chairman, I so move.

8. Resolution of the Union County Medical Society in Regard to Rules and Regulations Concerning Medicare Participation — After considerable discussion from the floor and slight editing by the author of the resolution to remove the paragraph concerning the Constitution of the United States (whereas, the Constitution of the United States limits the licensing power of practicing physicians to the various states) and a correction of "House of Representatives" to "House of Delegates," this resolution was approved, and the Delegate to the AMA instructed us to send this resolution to the appropriate agency — Judicial Council and/or Committee on Ethics and request that guidelines be drawn and made available to physicians' dealing with third parties, especially as to the consideration of confidentiality of patient records.

With Vice Speaker Wilkins presiding, the House approved the report of Reference Committee Number Two as follows:

REPORT OF REFERENCE COMMITTEE NUMBR TWO

H. King Wade, Jr., Chairman

Reference Committee Number Two met Sunday afternoon, April 20, 1975. All members of the committee were present, which included John P. Wood, Joseph A. Norton, Joe Verser, H. King Wade, Jr., and Mr. Gary Barger medical student representative.

The reports considered by this committee were as follows:

- State Legislative Committee
- Sub-Committee on National Legislation
- Sub-Committee on Traffic Safety
- Committee on Insurance
- Report of Physician-Nurse Joint Practice Committee
- Medical School Committee
- Report of Councilors — 1, 2, 3, 5 and 8 Districts
- Report of the Executive Vice President
- Report of State Department of Health
- Report of the Medical Education Foundation for Arkansas

1. State Legislative Committee — H. Elvin Shuffield and Mr. Eugene Warren discussed items included in this report. The report was

accepted and approved by the Reference Committee, but we wish to make the following comments: the report is accepted with thanks to the committee and especially Dr. Shuffield and Mr. Warren. They have stated they need additional help during the sessions of the State Legislature. We make the following recommendations:

- A. That the Arkansas Medical Society make available full time aid during the Legislative Session, as requested by the Chairman of the Legislative Committee.
- B. That we ask all members of the Legislative Committee to respond to the call of the Chairman for their assistance.
- C. That ways to involve the Woman's Auxiliary should be considered.
- D. That consideration be given to Arkansas Medical Society workshop during or before the Legislature with Legislators participating.
- E. That we urge the members of the Arkansas Medical Society to give counsel and financial support to local legislators and keep in constant contact with them.
- F. That we urge the Arkansas Medical Society members to write Governor Pryor and back Mrs. Wilkins and Mr. Richard Carver as delegates to the Constitutional Convention.

2. Report of the Sub-Committee on National Legislation was approved.

3. Report of the Sub-Committee on Traffic Safety was approved.

4. Report of Committee on Insurance was approved. Dr. Weber, member of the committee, was present and answered numerous questions from the Committee and audience. We feel that Dr. Weber and Dr. Hayes, the Chairman, especially should be commended for their diligent and productive efforts.

5. The report of the Physician-Nurse Joint Practice Committee was approved.

6. Report of the Medical School Committee was approved.

7. The Reports of the Councilors from the First, Second, Third, Fifth and Eighth Councilor District were approved. At this point, Dr. Mann of Arkadelphia, a new member of the Arkansas Medical Society for the past two years, as a matter of personal information spoke of the inactivity of his Councilor District and also noted all the reports from the Council Districts were not included in the Journal. This young man

is to be commended for his interest in the Society and his desire for active participation. The Committee wishes to note at this time that each Councilor District, by Constitution Amendment, is supposed to have a meeting at least annually and that all councilors are to have written reports to be published in the Journal at the time of this meeting. This Committee recommends that these duties be carried out each year.

8. The report of the Executive Vice President was accepted and approved.

9. The report summarizing activities of the State Health Department was approved. The Committee wishes at this time to note the resignation of Dr. John A. Harrel and wishes to extend thanks to him for his services to Arkansas medicine.

10. Report of Medical Education Foundation for Arkansas was approved. The Committee wishes to recommend that the Foundation consult with the Medical School authorities, the Medical School Committee, the Liaison Committee with Medical Students and the Medical Student Committees, to make and publicize annual plans for the definitive use of the Foundation's funds.

Mr. Chairman, this concludes our report and we recommend its adoption and approval.

The Report of Reference Committee Number Three was presented by a member of the Committee, Robert Watson:

REPORT OF REFERENCE COMMITTEE NUMBER THREE

L. A. Whittaker, Chairman

Reference Committee Number Three, composed of L. A. Whittaker, Chairman, H. W. Thomas, Robert Watson, and Ben N. Saltzman, met shortly after 3:30 P.M. on Sunday, April 20, 1975. The following committee reports were considered, discussed and approval and acceptance as presented is recommended:

1. Committee on Cancer Control
2. Committee on Medical Education
3. Committee on Public Relations
4. Ad hoc Committee on Repeal or Amendment of PSRO
5. Ninth Councilor District (Dr. Kirby)
6. Ninth Councilor District (Dr. Henry)
7. Tenth Councilor District
8. Report of the Council



T. E. Townsend, Pine Bluff, Society President for 1975-76, and A. S. Koenig, Fort Smith, president-elect.



Mrs. Curry Bradburn, Little Rock, Auxiliary President for 1975-76, and Mrs. Carl Wilson, Fort Smith, president-elect.

9. Budget Committee
10. Arkansas Political Action Committee
11. Arkansas Regional Medical Program
Advisory Committee Member Report

The Reference Committee also recommends acceptance of the Report of the Committee on Medicine and Religion with the recommendation that efforts be made to resume a program similar to the presentation in conjunction with the 1974 Annual Session in Little Rock.

(The above portion of the report of the Reference Committee was approved by the House as presented.)

The Reference Committee also heard and accepted Dr. Khan's report of the Student AMA Liaison Committee. Spirited discussion of this problem was heard. It is the conclusion of the Reference Committee that hopefully further discussion will be directed toward the development of solidifying rather than disruptive attitudes toward medical liaison in this State.

Dr. Shorey of Pulaski County moved that the report be amended to strike "education" in the last line of the report as distributed and the substitute "liaison" as presented orally and to insert

the following substitute wording: "licensure examination."

The report as amended was then approved by the House.

H. W. Thomas, a member of the committee, spoke briefly concerning the Committee's report as presented. He stated that he felt he would be remiss in his responsibilities to the delegates if he did not comment on some of the discussion in the committee hearing. He mentioned the opposition of the young men at the Medical School to the Healing Arts examination. Dr. Thomas indicated that the reasons for the various boards were pointed out to the young men, but that they remained adamant in their position. Dr. Thomas felt the members of the Society over the state should realize that there is a very serious difference of opinion between the medical students and organized medicine or the practicing physicians. He expressed the hope that we could work with Dean Bruce in resolving this problem.

Speaker Chudy called on the chairman of the Council for the supplementary report covering actions during the convention.

REPORT OF THE COUNCIL

C. C. Long, Chairman

The Council met on Sunday, April 20th, and transacted business as follows:

1. Authorized the chairman to appoint a resolutions committee.
2. Approved and accepted the annual report of audit.
3. Approved Executive Committee actions nominating Ross Fowler, M. J. Kilbury, Jim Lytle and Donald Duncan for the Advisory Committee to the Regional Medical Program.
4. Approved dues exemption for affiliate membership presented by the county societies as follows:

For Retirement

William K. Bell, Craighead-Poinsett
R. C. Shanlever, Craighead-Poinsett
B. F. Banister, Faulkner
James D. Kinley, White
M. C. Hawkins, Jr., White
Ross Van Pelt, Washington
L. H. Siegel, Washington
Vincent O. Lesh, Washington
LeMon Clark, Washington
W. J. Butt, Washington
Charles Brizzolara, Washington
H. L. Boyer, Washington
Jeff J. Baggett, Washington
R. A. Murchison, Sebastian
V. N. Kennedy, Sebastian
W. F. Adams, Sebastian
John H. Miller, Ouachita
E. Lloyd Wilbur, Pulaski
A. M. Washburn, Pulaski
Charles Wallis, Pulaski
John A. Stathakis, Pulaski
Irving J. Spitzberg, Pulaski
W. A. Snodgrass, Jr., Pulaski
Frances C. Rothert, Pulaski
Carl A. Rosenbaum, Pulaski
B. J. Reeves, Pulaski
James M. Nisbett, Pulaski
Harold N. Miller, Pulaski
Mason G. Lawson, Pulaski
Ruth H. Junkin, Pulaski
Eva F. Dodge, Pulaski
Hoyt L. Choate, Pulaski
Alan G. Cazort, Pulaski
Martha M. Brown, Pulaski
R. M. Blakely, Pulaski

Daniel H. Autry, Pulaski
Charles C. Ault, Pulaski
William L. McNamara, Pope-Yell
Roy I. Millard, Pope-Yell
Martin F. Heidgen, Pope-Yell
Frank E. Gavlas, Pope-Yell
Louis A. Draeger, Pope-Yell
Jabez F. Jackson, Jackson
Robert H. Hood, Saline
A. B. Dickey, Lawrence
W. Decker Smith, Miller
R. R. Kirkpatrick, Miller
Gaston A. Hebert, Garland

For Disability

Eugene Hildebrand, Baxter
Miles F. Kelly, Grant
John H. Williams, Van Buren

For Training

Students:

James M. Arkins, Pulaski
E. J. Reddick, Pulaski

Interns:

K. E. Ashcraft, Pulaski
W. R. Collie, Pulaski
Patrick Dolan, Pulaski
Jorge M. Figueroa, Pulaski
James A. S. Haisten, Pulaski
W. H. Stephens, Pulaski
Ronald D. Hardin, Pulaski

Residents

(Pulaski County)

Don P. Setliff	Ron Williams
Thomas R. Wallace	Harold F. Wilson
Ranulfo Atienza	Michael C. Young
Alan Aycock	Linda F. Deere
James S. Beckman	Carol Mittelstaedt
Steven Davie	Louise R. Munos
R. Jeffrey Eisenach	Steven W. Strode
Reuben M. Harris	Haim I. Bicher
C. William Hof	Christopher E.
E. C. Jones	Wiggins
F. Richard Jordan	Larry F. Faulkner
Sam A. McGuire, III	Carl C. Garner
Jerry D. Malott	Rodney L. Griffin
James A. McMillan	Thomas H. Hollis
Jeffrey M. Nieman	John A. Huskins
Charles B. Pollock	Lakhbir Kang
Robert L. Reese	Phillip L. White
William J. Smead	K. K. Yen
Ricardo Stotomora	Mahmood Ali Kahn

Fred H. Olin
Paul C. Williams
James R. McNair

Hugh F. Burnett
Ronald Reese

Saline County: William J. Stocker

Lawrence County: James H. Hickman

5. Appointed Samuel Landrum of Fort Smith as chairman of the Tenth Councilor District Professional Relations Committee.
6. Granted a charter to the Yell County Medical Society.
7. Authorized the chairman to appoint a committee to explore the purposes and methods of a proposal by Health Application Systems for a study of underutilization in the Medicaid Program.
8. Heard Mr. Warren discuss the malpractice insurance situation. Mr. Warren advised the Council that as of April 18th, the St. Paul Companies had not actually filed a schedule for new rates.
9. Decided on a method for nominating the panels of doctors from each of the 19 Judicial Districts in the state to meet the requirements of the Malpractice Arbitration law passed in the recent Legislature.
10. Approved appointment of Howard Harris of Dumas as chairman of the Fourth Councilor District Professional Relations Committee.
11. Appointed the following to serve on the Medical Services Review Committee:
C. Lynn Harris, Family Practice
James R. Walt, Surgery
Pat Phillips, Obstetrics-Gynecology
Robert Glenn, Pediatrics
A. S. Koenig, Jr., Pathology
Charles McKenzie, Orthopaedics
12. Re-elected Jean Gladden to the Board of Trustees of the Medical Education Foundation for Arkansas.
13. Appointed Gerald Teasley and Harley Darnall to the Arkansas State Arbitration Commission.
14. Voted to request the Medical Society's representative on the State Health Planning Council to report to the Council regularly in the future.

The Council met on Monday morning, April 21, and took the following actions:

1. Approved increasing the annual donation to

the Aldersgate Medical Camp for medically handicapped children to \$140.

2. Nominated Jim Lytle to serve on the Board of Trustees of Arkansas Blue Cross-Blue Shield.
3. Voted to forgive the loan by the Medical Society to the Arkansas Foundation for Medical Care.

The Council met on Tuesday and transacted business as follows:

1. The chairman read a letter of appreciation from Jeane Hundley for the plaque presented to her at the Winter meeting.
2. Voted to discontinue the routine practice of adopting resolutions of appreciation. The Council directed that, in place of resolutions of appreciation, the Executive Vice President send letters of appreciation when he feels such letters are called for.
3. Received for information a resolution from the Physician-Nurse Joint Practice Committee endorsing the collaborative functions of the physicians and nurse practitioners for improved patient care.
4. Took the following actions regarding peer review for private insurance companies:
 - A. Voted to remove the Private Insurance Review Committee from the Arkansas Foundation for Medical Care and re-create it as a committee of the Council.
 - B. Voted to notify the doctor concerned before any case submitted for review by the Private Insurance Review Committee is considered.
 - C. Authorized paying for a part-time secretary and the long-distance telephone charges for the Private Insurance Review Committee.
 - D. Directed that all revenue from reviewing insurance claims is to go to the Arkansas Medical Society.
5. Directed the Executive Vice President to write all members of the Society legal counsel's interpretation of the recently-adopted legislation on prescriptions.

The Council met at 9:00 A.M. on Wednesday and transacted the following business:

1. Appointed E. Clinton Texter, Jr., as the Internal Medicine representative on the Medical Services Review Committee.

2. Appointed the following to the Ark-Pac Board:

Boyce West, Clarksville
Noel Ferguson, Harrison
Mrs. E. Morgan Collins, Forrest City
Kemal Kutait, Fort Smith
James L. Smith, Little Rock
J. Larry Lawson, Paragould
E. L. Hutchison, Pine Bluff
Sybil Hart, Blytheville
Mrs. Charles F. Wilkins, Jr., Russellville
Thomas Jansen, Little Rock
Allie Andrews, Texarkana
William S. Orr, Jr., Little Rock

3. Authorized the headquarters to accept nominations for the Malpractice Insurance panels for the nineteen judicial districts from the respective councilors.
4. Appointed J. Travis Crews to the Arkansas Family Planning Council.
5. Considered a resolution from the Eye, Ear, Nose and Throat Section opposing Health Maintenance Plans. The resolution was tabled. It was decided to invite representatives from the EENT Section, other specialty groups, and county medical societies now participating in H.M.P.'s to a meeting to discuss the matter.
6. Voted to request from the House of Delegates authority to select the location of future meetings of the Society.

The House approved the report of the Council as presented.

Speaker Chudy announced the selection of nominees by the congressional district elections as follows:

For the Third Congressional District position on the State Board of Health:

Ben Saltzman, Mountain Home
Wilbur Lawson, Fayetteville
Boyce West, Clarksville

For the Sixth Congressional District position on the State Board of Health:

C. Lewis Hyatt, Monticello
Robert McCrary, Hot Springs
Robert H. Atkinson, Hot Springs

For the Sixth Congressional District position on the State Medical Board:

Frank Burton, Hot Springs

Speaker Chudy expressed thanks to members of the House and adjourned the House at 11:45 A.M.

REORGANIZATIONAL MEETING OF THE COUNCIL

The Council met for a brief reorganizational meeting at 11:45 A.M. on Wednesday, April 23, 1975. New members of the Council — Asa Crow, Allie Andrews, Kemal Kutait — were welcomed to the group. C. C. Long was re-elected chairman and Alfred Kahn, Jr., was re-elected Editor of the Journal for the ensuing year.



The Inaugural Banquet



Ben N. Saltzman was Master of Ceremonies for the President's Banquet on Tuesday evening.



T. E. Townsend takes the oath of office of the president of the Arkansas Medical Society.



Ben N. Saltzman presents the gavel to T. E. Townsend and congratulates the new president.

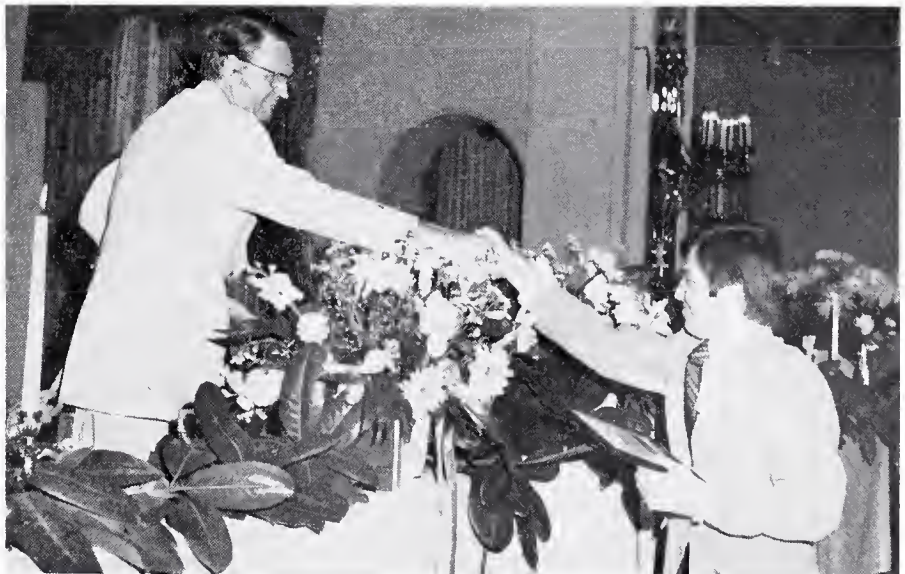
The Inaugural Banquet



The family of new president T. E. Townsend were special guests at the inaugural banquet.



Members of the Executive Committee and their wives were seated at the head table at the banquet.



Curtis Clark, chairman of the Scientific Exhibits, presents the first place award for scientific exhibits to Dr. Joe Colclasure of Bailey, Pappas, McGrew Ear and Nose-Throat Clinic.

SCIENTIFIC SESSION

The scientific program of the convention was opened at 10:30 A.M. on Monday, April 21, with First Vice President G. Thomas Jansen presiding. Jaue Schaller of the University of Washington School of Medicine discussed "Natural History of Juvenile Rheumatoid Arthritis and its Deferential from Rheumatoid Arthritis in the Adult — Juvenile Rheumatoid Arthritis Sequela in the Adult." Richard R. Tenzel of the University of Miami School of Medicine presented a paper on "Surgery of the Eye and Orbit" and Gale Gardner of Memphis discussed "Recent Developments in Otolaryngology." The morning program was concluded with a presentation on "Recent Advances in Diagnostic Radiology" by Jack Rabinowitz of the University of Tennessee Medical Center.

The Monday afternoon scientific program was devoted to a panel on "Trauma."

Samuel E. Landrum of Fort Smith talked on "Emergency Medical Services in Arkansas" and "Shock." Carl Williams of Fort Smith spoke on "Chest Injuries" and Peter J. Irwin of Fort Smith presented a paper on "Fractures and Dislocations." Second Vice President Asa Crow presided at this session.

At 10:00 A.M. on Tuesday morning, a panel program on "Regionalization of Perinatal Health Care" was presented. Third Vice President Donald L. Toon was presiding officer. The panel was introduced by David L. Barclay of the University of Arkansas School of Medicine. Speakers included Henry C. Heins of the Department of Obstetrics and Gynecology at the Medical University of South Carolina College of Medicine, and Stanley Graven of the University of Wisconsin Medical School. Alice Beard, Byron L. Hawks, and Ben Saltzman, all of the University of Arkansas School of Medicine, were panelists for the program. Following the panel, Raymond G. Slavin of St. Louis University School of Medicine presented a paper on "Bronchial Asthma — Pathogenesis and Management."

HISTORY OF MEDICINE

Part of the program for the centennial meeting of the Society was devoted to papers on the "History of Medicine in Arkansas." Presenting

papers for this special portion of the program were:

Harry Hayes, Little Rock, "Introduction to the History of Medicine in Arkansas."

Marion S. Craig, Little Rock, "Arkansas Territorial Medicine."

Judge Ed F. McFaddin, Little Rock, "Development of Legal Medicine in Arkansas."

H. King Wade, Jr., Hot Springs, "Early Medicine in Hot Springs."

Henry Hollenberg, Little Rock, "Early Medicine in Little Rock and Pulaski County."

Ruth Ellis Lesh, Fayetteville, "Early Medicine in Northwest Arkansas."

Henry V. Kirby, Harrison, "Early Medicine in North Central Arkansas."

J. P. Price, Monticello, "Early Medicine in South Central Arkansas."

Fred Henker, Little Rock, "Early Psychiatry in Arkansas."

Robert Watson, Little Rock, "What Organized Medicine Has Contributed to This State."

The papers presented by these individuals are being published in booklet form and will be made available to all members of the Arkansas Medical Society.

HISTORICAL EXHIBITS

As a part of the observance of the Society's centennial, a number of exhibits of an historical nature were on display on the first floor of the hotel. Members of the Garland County Medical Auxiliary in dress of the 1870's served as hostesses for the exhibits and passed out a pamphlet on the history of the Arkansas Medical Society.

The exhibits included:

"Thoracic Surgery" by William S. Hudson, Jasper.

"Fifty Year Club," G. Allen Robinson, Harrison, Secretary.

"Kirby-Vance Family History," Henry V. Kirby, Harrison.

"Chair Used by Dr. Proctor," Floyd Wilson Home Furniture Company, Hot Springs.

"Pictorial History of the University of Arkansas School of Medicine," Horace Marvin and Mr. Jack Diner.

"History of Medicine in Sebastian County," Mrs. Art Martin and Mrs. Kemal Kutait of Fort Smith.

"Dr. T. E. Rhyne, Thornton (1899-1964)," T. E. Townsend.

"Dr. J. S. Waddle, Centerville (1879-1929)," Mrs. C. Lynn Harris, Hope.

"Historical Medical Documents," Mrs. Jack W. Kennedy, Hot Springs.

"Slides from Inaugural Ceremonies of Society Conventions," C. R. Ellis, Malvern.

Books, instruments and prescription form, H. W. Thomas, Dermott.

Books, instruments and picture of Doctor's Office in the 1800's, Robert Watson, Little Rock.

Books, Charles F. Wilkins, Jr., Russellville.

Medical Diploma of the 1800's, C. C. Long, Fort Smith.

Saddle Bags, Martin Eisele, Hot Springs.

These exhibits were open to the public and created a great deal of interest.

CENTENNIAL PARADE

Another feature of the centennial meeting was a parade down Central Avenue at 4:00 P.M. on Monday.

T-Steppers from the Hot Springs High School led off the parade carrying a banner reading "100 Years of Service, 1875-1975, Arkansas Medical Society." Included in the parade were Max Parrott of Portland, Oregon, President-elect of the American Medical Association; Ben N. Saltzman, President of the Arkansas Medical Society; T. E. Townsend, President-elect of the Arkansas Medical Society; C. C. Long, Chairman of the Council of the Arkansas Medical Society; Mr. Paul Schaefer, Executive Vice President of the Society; Hot Springs Mayor Tom Ellsworth; Miss Arkansas, Rhonda Kay Pope; Miss Arkansas Universe, Robin Fields; members of the Fifty Year Club of the Arkansas Medical Society; the Hot Springs High School Band; Central Junior High School Band; Lakeside High School Band; Southwest Junior High School Band; the Garland County Mounted Patrol; and floats or cars representing the Arkansas Cancer Society, the Arkansas Caduceus Club, the Arkansas State Nurses Association, the Garland County Retarded Citizens, and the University of Arkansas School of Nursing.



OTHER ACTIVITIES

COUNCIL RECEPTION

The Council of the Society hosted a reception on Sunday evening. Dr. and Mrs. Ben Saltzman, Dr. and Mrs. T. E. Townsend, Dr. and Mrs. C. C. Long, and Dr. and Mrs. Elvin Shuffield received members and guests in a room beautifully decorated in the centennial theme with calico flowers, an old-fashioned churn, etc. The reception was well attended and the fun and fellowship of the evening set the mood for the centennial meeting.

MONDAY EVENING PARTY

On Monday evening, Blue Cross-Blue Shield of Arkansas hosted a cocktail party for the Society. As usual, the Blue Cross-Blue Shield party was a very popular one—it was well attended and enjoyed by everyone.

In connection with the Blue Cross-Blue Shield cocktail party, the Woman's Auxiliary to the Arkansas Medical Society presented "You've Come a Long Way, Baby," narrated by Mrs. Gordon P. Oates of Little Rock. Mrs. Oates reviewed the history of the Auxiliary, the "helping hand" of the Medical Society. Past Presidents of the Auxiliary modeled costumes from their year as president. Models were Allene Smith, Carlyn Langston, Margaret Harris, Amelia Martin, Joyce Wilkins, Helen Padberg, Willie Oates, Ida Kennedy, Marguerite Little, Rosina Jones, and Mrs. William Hibbits. The skit was very entertaining and enjoyed by all. The ladies received enthusiastic applause.

TUESDAY EVENING

Physicians and their wives were encouraged to dress in attire of the 1875 era for Tuesday evening and there were many beautiful outfits worn that evening. The cocktail party preceding the inaugural banquet gave members an opportunity to admire the beautiful costumes and to find that many had very interesting histories.

Ben N. Saltzman served as Master of Ceremonies for the Inaugural Banquet. Invocation was by C. R. Ellis.

President Saltzman introduced those seated at the head table: Elvin Shuffield, Secretary and Chairman of the Legislative Committee; Mrs. Shuffield; Mrs. Saltzman; C. C. Long, Chairman

of the Council; Mrs. Long; T. E. Townsend, President-elect, and Mrs. Townsend.

Other special guests introduced were: Mrs. James H. Manning of Marietta, Georgia, the President of the Southern Medical Auxiliary; Mrs. Curry Bradburn, Little Rock, President of the State Auxiliary; Mrs. Carl Wilson of Fort Smith, President-elect of the State Auxiliary; Robert McCrary, Chairman of the Convention Committee, and D. L. Owens, who was attending his 55th consecutive meeting of the Arkansas Medical Society.

President Saltzman expressed appreciation to Mrs. Louis Hundley for the beautiful decorations for the 100th anniversary of the Society. Tables were decorated with white flowers, greenery, and the number "100" in white and silver glitter.

President Saltzman called on Curtis Clark for presentation of exhibit awards.

Joe Colclasure was present to accept the first place award for the Bailey, Pappas, Gay, McGrew Ear & Nose-Throat Clinic, P.A.

President Saltzman gave recognition to the past presidents of the Society in attendance: John Wood, Robert Watson, Jack Kennedy, Ross Fowler, H. W. Thomas, Joseph Norton, C. Lewis Hyatt, C. R. Ellis, Joe Verser, H. King Wade, Jr., and T. Duel Brown.

Dr. Saltzman then administered the oath of office of President of the Arkansas Medical Society to T. E. Townsend and presented the gavel to him.

As his first official duty, Dr. Townsend presented a plaque of appreciation to Dr. Saltzman for his services to the state and to the profession during his term as Society president.

Dr. Townsend introduced members of his family who were present—his wife Wanda; his mother, Mrs. C. L. Townsend; his mother-in-law, Mrs. C. F. Lane; his daughters Sherri and Elizabeth; his sister and brother-in-law, Joy and Aaron Westbrook, and his twin sons, Lane and Mark. Another son, Tommy, was unable to be present because of his duties as an intern.

Dr. Townsend addressed the membership as follows:

PROCEEDINGS



Receiving line for Council Reception. Members of the Executive Committee and their wives received guests at the reception for all members hosted by the Council on Sunday evening. Reading from the right, Ben Saltzman, president; Mrs. Saltzman; T. E. Townsend, president-elect; Mrs. Townsend; C. C. Long, Chairman of the Council; Mrs. Long; Elvin Shuffield, secretary, and Mrs. Shuffield.



Past presidents of the Society met for breakfast on Wednesday morning. Present were (seated, left to right) Joe Verser, C. R. Ellis, H. King Wade, Jr., Ross Fowler, and (standing, left to right) Robert Watson, Ben N. Saltzman, C. Lewis Hyatt, and John P. Wood.



Members of the Fifty Year Club were honored at a breakfast meeting on Tuesday morning at which special recognition was given to Dr. J. W. Morris, who is one hundred years of age. Not all members of the club were present when the photograph was taken, but club members attending the breakfast were: Eva Dodge, D. L. Owens, W. K. Smith, Davis Goldstein, John W. Morris, Ross Van Pelt, Mac McLendon, Irving J. Spitzberg, R. H. Whitehead, D. B. Stough, G. Allen Robinson, O. A. Smith, Gaston Hebert, W. A. Hudson, George C. Coffey, Virgil L. Payne, Jerome Levy, and T. H. Jones.

INAUGURAL ADDRESS

T. E. Townsend, M.D., President

I feel that any organization which survives 100 years and remains as viable as the Arkansas Medical Society merits investigation. With this thought in mind, I have been reviewing the past one hundred years of our Medical Society. It has been most revealing and rewarding.

The Sebastian County Medical Society was the first medical organization in the state. It was founded in 1845.

The State Medical Association of Arkansas was formed in 1870. This organization was disbanded due to constant misunderstandings between various groups inside and outside the organization. Following this, a group of two hundred and twenty-three physicians signed a petition and formed the State Medical Society of Arkansas in 1875. The Charter remains in force today as recorded in 1875. At the Seventeenth Annual Session in 1892 at Little Rock, the name was simplified to the Arkansas Medical Society as we now have it. Dr. W. B. Welch of Sebastian County was the first president.

Records of the first few years are rather scant. The Arkansas Medical Society, through friends in the State Legislature, introduced a bill establishing the State Health Department in 1881. No funds were appropriated for many years to support the Health Department, but many physicians volunteered their services as County Health Officers.

In 1879, the State Medical Society worked for the establishment of the first medical school. Again, no funds were available for many, many years and, again, all teaching and equipment was volunteered by the physicians of the Arkansas Medical Society. Actually, no funds were appropriated to the University for the operation of the School of Medicine until 1945—some 56 years later.

The first presidential address to the Society that I could find was in 1880 by Dr. E. T. Dale. I would like to quote Dr. Dale: "It is time that the profession should take a more prominent part in public affairs, be more interested workers for and promoters of public legislation. It is the duty of physicians, as citizens, to see that the interests of state medicine are cared for; if they do not do this, but leave the matter of public

hygiene or preventive medicine, the establishment of a Board of Health, of institutions for the care of the sick, the questions of medical education and medical jurisprudence, together with the thousand and one other questions which bear upon the lives and health of our people, to be regulated by those who know little and care less about these subjects, Arkansas will long be far behind those states in which more enlightened ideas are held and more earnest work done by medical men."

Dr. Dale also said, and I quote: "It is a fact worthy of special attention, that the history of medicine from earliest times to the present day, shows that the progress of rational medicine has been advanced or retarded just in proportion, as its cultivation has been protected and encouraged, or persecuted and neglected by government."

Dr. Dale also mentioned the establishment of a State Lunatic Institute. This was brought about by legislation in 1886.

The president's address in 1893 was on the prevention of venereal diseases. You talk about sex—you haven't read anything until you read his speech. He listed some of the agents for transmission of venereal diseases as cigars, paper money, coins, cracked glass and many other objects—enough to frighten anyone.

In the address of President Gibson in 1896, he mentions the number of physicians in Arkansas as 1,840; 934 regular physicians and 899 irregulars. This came to one regular graduate to every 1,438 persons—one irregular practitioner to every 1,493. President Gibson made a strong plea for a State Medical Board to eliminate the unqualified physicians. This came about with the organization of the State Medical Board in 1903.

The meeting in 1900, celebrating the 25th anniversary of the Society, was to be held in Jonesboro. Due to an epidemic of smallpox, Jonesboro was under strict quarantine. The meeting was held in Fayetteville, about as far away as you can get. Membership was less than 250.

The Arkansas Medical Society, from 1875 until 1902, was different from the present organization. Arkansas had its own by-laws, constitution, and requirements completely separate from other states. One could become a member

without being a member of any county society. Dues were \$2, payable at the annual meeting.

In 1903, the American Medical Association helped all state societies to standardize their constitution and by-laws. County membership, then state membership and automatic AMA membership. The AMA did not require dues until 1950. Membership in 1903 was 750.

Of interest is that the Society had a Committee of Nutrition until 1921. The duties of this committee were to see that none of the members took too much nutrition, either solid, semi-solid, or liquid — and especially liquid.

The Society met in Pine Bluff in 1909 and the session was devoted to "The Protection and Care of Tuberculosis." The public was invited. Just previous to this, due to the strong support of the Society, the State Tuberculosis Sanatorium was opened for reception of patients.

The State Board of Health was established in 1917 due to the recommendation of the Arkansas Medical Society. This, at last, gave the State Health Department some strength in its endeavors.

Of interest is the disappearance of a bill passed by the General Assembly in 1912 creating a Department of Public Health. It never reached the Governor. President Morgan Smith was quite concerned about this and reading his account is like reading a good mystery novel.

In 1925 there were 1,200 members of the Society. Now listen to what Dr. Herbert Moulton, president of the Society in 1925, says, and I quote: "The highly trained and expensively equipped doctor of today rightly feels that he cannot afford to practice for the small fees customary a few years ago. So, he charges more. More doctors become specialists than formerly. They charge still higher fees. Some unite into groups where fees may be multiplied. Thus the high cost of education is passed on to the patient. This and the increased use of hospitals and nurses with their increased charges make the cost of medical service today many times greater than ever before.

"It is claimed, as a further difficulty growing out of the high cost of medical education and service, that the modern doctor will not or cannot afford to locate in rural communities."

And Dr. Moulton continues, "There is a demand in some quarters that the state should

employ the doctors and own the hospitals, distributing the work where it will. European experience condemns it."

Dr. H. D. Wood, president in 1926, was greatly concerned about abortions. He said, "But the doctor who would destroy the life of an unborn baby unlawfully, should lose the right to practice medicine anywhere."

Dr. Thad Cothorn, president in 1930, referred to the advent of the specialist — "Certainly, there always have been specialists, but more particularly in diseases of the visible organs, the eye, nose, ear and throat. But the more recent specialists are to be found in which may be called 'the innards' and that suffices to explain and save words." Dr. Cothorn also referred to the coming of psychologists to the medical field.

In 1935, Dr. F. O. Mabary stated "Our most pernicious potential menace today is a socialistic trend towards government subsidizing of doctors."

Dr. A. S. Buchanan, president in 1940, emphasized that "The outstanding medical achievement of this generation has been the growth of preventive medicine." He felt that the Arkansas Medical Society had recommended and supported these efforts throughout its history.

During the years of World War II, cancer detection and treatment centers were established throughout the state. Dr. C. A. Archer, who was president in 1946, was concerned about a hospitalization plan for the people of Arkansas. Thus, the ground work was laid for the establishment of Blue Cross-Blue Shield with the support of the Arkansas Medical Society in 1949.

In 1950, after 75 years, the Arkansas Medical Society was concerned about rural health problems — and the need for physicians. The Society was deeply involved in the building and staffing of the new medical school. Dr. Euclid Smith brought these facts out in his address.

Dr. James M. Kolb, in his address in 1959, announced the establishment of the Medical Education Foundation for Arkansas by the Arkansas Medical Society.

And now we come to 1975 — 100 years. Today, the Arkansas Medical Society is involved in as much if not more activities concerning its members and the people of Arkansas than ever before. To mention a few — malpractice, PSRO, immunization programs, emergency care programs,

providing monies for student loan programs, better scientific programs, etc.

In conclusion, it would appear to me that every advancement made in medicine or public health in the State of Arkansas has been conceived or motivated by the Arkansas Medical Society. I would like to compliment you physicians who are members of the Arkansas Medical Society and those who have preceded us these 100 years for a job well done and encourage you to push on to greater achievements.

COSTUME BALL

Following the inaugural banquet, there was a "Costume Ball" in the Crystal Ballroom of the hotel. President T. E. Townsend served as Master of Ceremonies, introducing the following participants in the "parade of costumes":

Dr. and Mrs. Winston Shorey
 Mrs. Gordon P. Oates
 Dr. and Mrs. Asa Crow
 Dr. Eva Dodge
 Dr. and Mrs. Jim Bethel
 Dr. and Mrs. Richard Martin
 Dr. and Mrs. Ken Lilly
 Dr. and Mrs. Kemal Kutait
 Dr. and Mrs. Henry Kirby
 Mrs. Virgil Payne
 Dr. and Mrs. James Kolb
 Mrs. Carl Wilson
 Dr. and Mrs. George F. Wynne

Dr. and Mrs. Charles F. Wilkins, Jr.
 Mrs. Harlan Hill
 Dr. and Mrs. H. W. Thomas
 Dr. John Wood
 Miss Leah Richmond
 Mr. and Mrs. Paul C. Schaefer
 Dr. and Mrs. Robert Watson
 Mrs. Allie Andrews
 Mrs. Paul Cornell
 Dr. and Mrs. William Springer
 Dr. and Mrs. Joe Lyford
 Dr. and Mrs. M. R. Springer, Jr.
 Dr. and Mrs. Deno Pappas
 Dr. and Mrs. Curry Bradburn
 Mrs. Donald Toon
 Mr. and Mrs. John McIntosh
 Miss Dee Thompson
 Mrs. Peggie Branham
 Miss Becky Bautts
 Mrs. Pat Andrews

The judges' selection for best female costume was Mrs. M. R. Springer, Jr., of Hot Springs, who received an antique gold crown pendant, and Henry V. Kirby of Harrison, who received a mounted Colt Model 1851 Navy Revolver.

The George Gray orchestra played for dancing following the parade of costumes.

The Annual Session Committee expresses thanks to all those who dressed in centennial costumes for the Tuesday evening functions.



Winners in Costume Judging



Mrs. M. R. Springer, Jr., Hot Springs, and Dr. Henry V. Kirby of Harrison were the judges' selection for best costumes at the "Costume Ball" on Tuesday evening.

SCIENTIFIC EXHIBITS

Twenty scientific exhibits were displayed during the meeting. The following three exhibits were selected as the most outstanding:

1. "Round Window Ultrasonic Irradiation—A New Approach for Meniere's Disease" and "Advances in Audiology," presented by H. A. Ted Bailey, James J. Pappas, Ellery C. Gay, Jr., Robert N. McGrew, and Joe B. Colclasure.

2. "Colonoscopy and Polypectomy," by Donald C. Browning, Robert C. Power and Thomas J. Smith.

3. "Basal Osteotomy for Bunion Deformity," by H. Austin Grimes, Phillip H. Johnson, Kenneth G. Jones, I. Leighton Millard, and R. Barry Sorrells.

RELATED MEETINGS

The Alan Cazort Allergy Society of Arkansas held a luncheon meeting on Monday, April 21, with Raymond Slavin of St. Louis as guest speaker.

The Association of Tumor Clinic Staff Members in Arkansas held a luncheon meeting on Monday with James Y. Suen of Little Rock as guest speaker.

The Arkansas Orthopaedic Society held a luncheon meeting on Monday, April 21, with Mr. Eugene Warren as speaker on "Malpractice." Ashley Ross of Little Rock was elected president of the Orthopaedic Society and Peter Irwin of Fort Smith was elected secretary.

The Eye Section of the Arkansas Medical Society met on Tuesday morning, April 22nd, with Richard A. Tenzel as speaker. Robert Hughes of Fort Smith is chairman of the Section and Robert Calcote of Little Rock is secretary.

The Ear, Nose and Throat Section met on Tuesday morning and heard papers presented by Gale Gardner of Memphis. E. L. Milner of Little Rock is chairman of the Section and Tom Smith of Little Rock is secretary.

The Arkansas Chapter of the American College of Radiology held an all-day meeting on Tuesday. The program covered "What's New in Nuclear Medicine?", "What's New in Radiation Oncology?", "What's New in Diagnostic Radiology?", an address by Jack Rabinowitz of Memphis, and a diagnostic film panel moderated by Wilma C. Diner of the University Medical Center. David Newbern of Little Rock is president of the Chapter and William R. Seibold of Texarkana is secretary.

The Arkansas Society of Urologists met on Tuesday for a luncheon and scientific program

presented by Eugene Carlton of Baylor University School of Medicine. Dr. Carlton moderated a Pyelogram Conference following his formal presentation. Leonard Bogaev of Jonesboro is president of the Society and Charles W. Logan of Little Rock is secretary.

The Arkansas Chapter of the American Academy of Pediatrics held a luncheon meeting on Tuesday, followed by a program on Rheumatoid Disease with Jane Schaller of Washington School of Medicine, Earl J. Brewer of Texas Children's Hospital and W. Malcolm Granberry of the Houston Bone and Joint Clinic as speakers. Betty Ann Lowe of Texarkana is chairman of the Chapter.

The Arkansas Society of Anesthesiologists met for a luncheon, business meeting, and scientific program on Tuesday. Stanley Deutsch of the University of Oklahoma Medical Center was guest speaker.

The Arkansas Society of Pathologists held a luncheon business meeting on Tuesday. Glen Baker of Little Rock is president of the Society and Patrick Knight of Hot Springs is secretary.

The Neurosurgery Section met for a luncheon and sectional business meeting on Tuesday.

The Arkansas Society of Internal Medicine met for a luncheon meeting on Tuesday with a program on "Socio-economics of Internal Medicine in Arkansas." McDonald Poe of Fort Smith is president of the Society.

A Perinatal Panel luncheon program on Tuesday was co-sponsored by the Obstetricians-Gynecologists, Family Physicians and Pediatricians. The Tuesday program speakers were David Barclay of the University Medical Center, Henry C. Heins of the South Carolina College of Medi-

cine, Stanley Graven of the University of Wisconsin School of Medicine, and Alice G. Beard, Byron L. Hawks, and Ben N. Saltzman, all of the University Medical Center.

MEMORIAL SERVICE

A joint Society-Auxiliary Memorial Service was held at 12:00 noon on Tuesday, April 22, in the hotel ballroom. The Society president, Ben N. Saltzman, presided. Invocation was by the Reverend Harold Elmore, Pastor, Park Place Baptist Church, Hot Springs.

Dr. Saltzman read the following names of deceased members of the Society:

George W. Allen, Fort Smith
Thomas N. Black, Hot Springs
Adron M. Bradley, Forrest City
Bryce Cummins, Little Rock
Edwin L. Dunaway, Conway
Robert M. Finch, Paragould
Horace H. Holt, Nashville
Merlin J. Kilbury, Sr., Little Rock

James O. Porter, Jr., Little Rock
John M. Samuel, Little Rock
Joseph H. Sanderlin, Little Rock
Sloan M. Sanford, Searcy
Harry W. Savery, Van Buren
Francis J. Scully, Hot Springs
Dewey W. Sloan, Beebe
James S. Taylor, Little Rock

Mrs. Curry Bradburn, president of the Woman's Auxiliary, read the following names of deceased members of the Auxiliary:

Mrs. Thomas M. Durham, Hot Springs
Mrs. Charles E. Benefield, Fort Smith
Mrs. Francis Scully, Hot Springs
Mrs. James B. Crawford, Little Rock
Mrs. H. W. Hundley, Little Rock
Mrs. Porter Rodgers, Sr., Searcy

Randy Woodfield of Ouachita Baptist University sang "Eternal Life" by Olive Dungan, and was accompanied by Crystal Waters, also of Ouachita Baptist University.

The Benediction was by C. R. Ellis, Malvern.



MEMORIAL ADDRESS

THE BELOVED PHYSICIAN

A TRIBUTE OF LOVE AND APPRECIATION

The physician plays a supportive role in the drama of life whether it be the individual, family, institution, private or public, business or industry. The physician literally carries our total society on their minds, hearts and shoulders. He shares in every step of progress, every achievement in the whole spectrum of society through the people he serves in health care.

Dr. Luke, companion of the apostle Paul, ministered to him in his poor health to enable him to carry on his work. Paul was the greatest exponent of Christianity, was a major contributor to the advance of Christianity around the world, and in his writings that compose twelve and possibly thirteen books in our Bible. Dr. Luke will share in the rewards of the labors of the apostle Paul. Dr. Luke was the author of two of the books in our Bible — Luke and the book of Acts.

There is no profession that was nearer to the heart of our Lord than that of the physician.

He was known as the great physician of body and soul. He was deeply committed to the saving of life and ministering to the mind and body of men. As we look at the life of each of us, we each have talents — some one, some two, some five, some ten talents, all are divinely given. We are to learn what these talents are and develop them to our maximum ability.

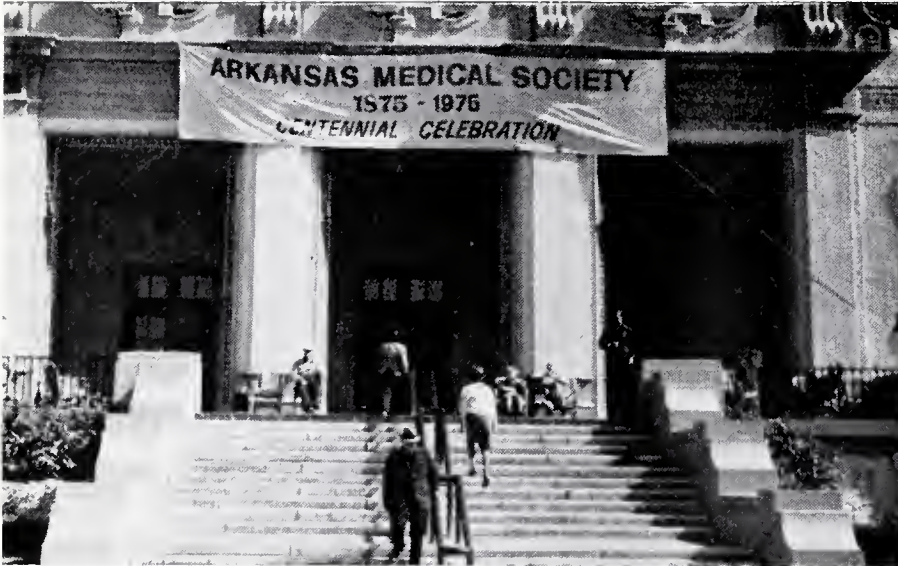
You will remember the beginning days — long days and nights and years of diligent study in preparation. The lean years of financial struggle to stay in school and get the necessary training will never be forgotten. Then there were the years of beginning in practice and paying off debts and getting established.

With all the pressures and demands upon you, there is always the stress of responsibility of keeping one's sense of values in proper relationship.

They are:

1. One's faithfulness and responsibility to your Creator.

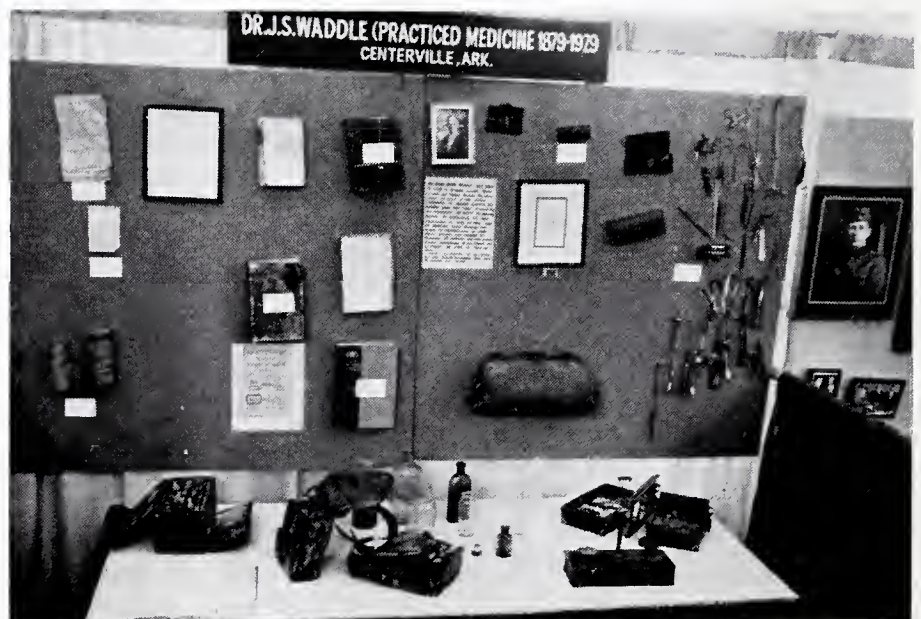
The Centennial Meeting



A banner across the front of the Arlington Hotel called attention to the Society's centennial celebration. Historical exhibits displayed as part of the centennial observance were open to the public.

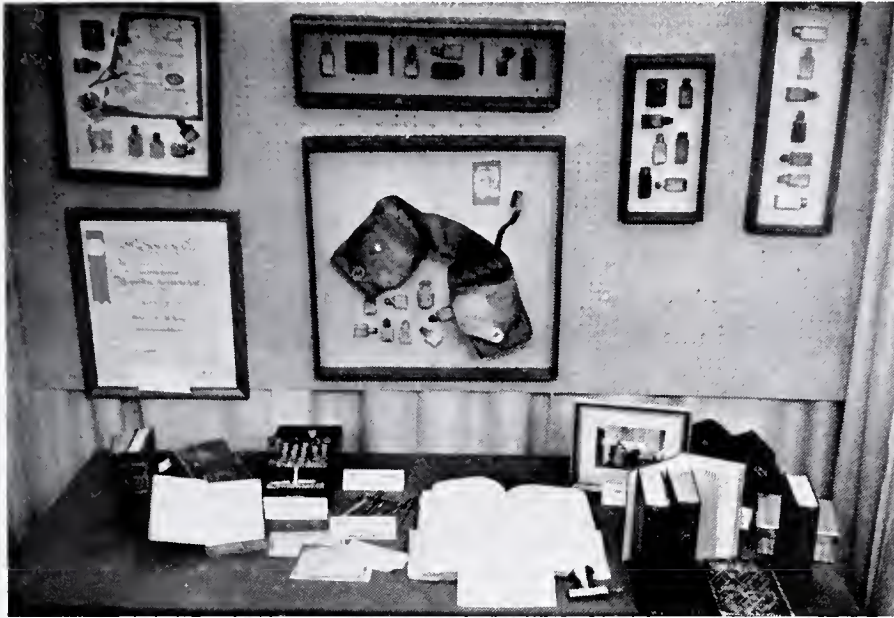


One of the historical exhibits featured Dr. T. E. Rhyme (1899-1964) who practiced in Thornton, Arkansas.

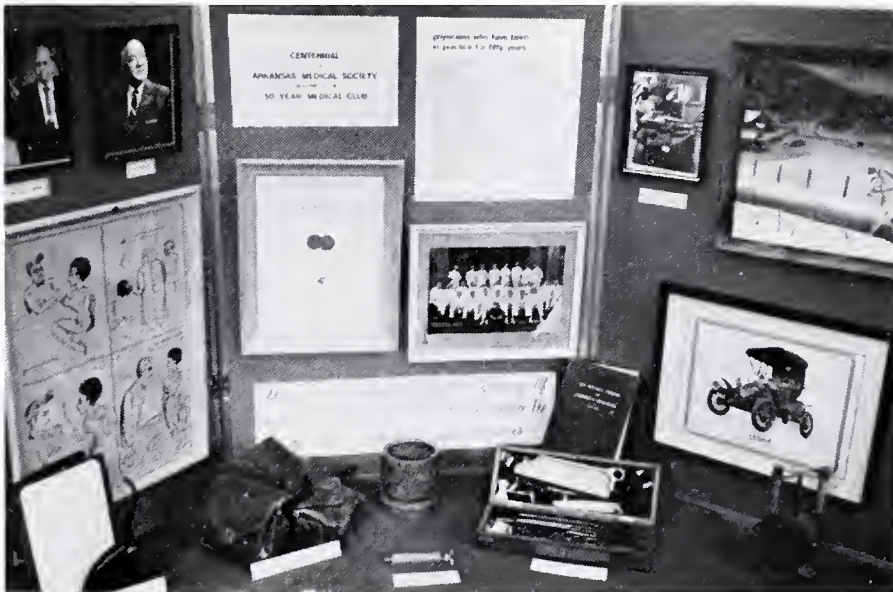


Dr. J. S. Waddle (1879-1929), who practiced in Centerville, Arkansas, was the subject of one of the historical exhibits.

The Centennial Meeting



Several members of the Society contributed to this display of historical medical documents and materials.



The Fifty Year Club was one of the exhibitors in the historical displays.



The Kirby-Vance Family History was the subject of a display by Henry Kirby of Harrison.

2. One's faithfulness and responsibility to your family.
3. One's faithfulness and responsibility to your profession.

The two most important people in any community are the minister and the physician. One ministers to the spiritual man — the other to the physical man.

One who has the highest conception of his work will fulfill his mission in life best. We are all familiar with the story that vividly sets this truth forth. A visitor came upon a construction site and saw three stone masons working side by side. He asked each what he was doing.

The first answered, "I am laying stone."

The second answered: "I am making \$50 per day."

The third answered, "I am building a great cathedral."

Each was doing the same thing. Each took a different view of his task.

Take the physician who has a long and demanding practice — he still gives generously of his time, loyalty and devotion to his family and to his Lord.

In his practice he upheld the highest standards of his profession and in his intimate fellowship with his patients he conducted himself as a Christian gentleman.

Perhaps the death of these physicians has been hastened by devotion to his task, by his refusal to turn a deaf ear to the incessant calls which came day and night.

How fitting are those words first applied to Jesus as he hung in agony upon the cross: "He saved others, Himself He cannot save." Of course he cannot save Himself and others at the same time, and He chose to save others. Some must die that others may live.

FIFTY YEAR CLUB OF THE ARKANSAS MEDICAL SOCIETY

Members of the Fifty Year Club of the Arkansas Medical Society were honored at a breakfast on Tuesday, April 22, in the Arlington Hotel. Five new members were awarded Club lapel pins at the breakfast: Gaston Hebert, Irving J. Spitzberg, Eva F. Dodge, Virgil L. Payne, and Jerome Levy.

The Club paid special tribute to its two centenarian members — J. H. McCurry and J. W. Morris. Dr. McCurry was not able to attend but

Dr. Morris was present to receive a scroll presented to him by the Club secretary, G. Allen Robinson.

Dr. Robinson was re-elected secretary of the Club and W. K. Smith of Hot Springs was elected president for 1975-76.

W. A. Hudson, a pioneer in Thoracic Surgery, presented the following paper:

DO YOU REMEMBER?

Dr. W. A. Hudson

In ancient times the universal attempt by mankind to obtain relief in case of sickness or injury, either through self medication or through the help of others, was due to the deep-lying instinct in human nature that convinces man that relief from suffering is an obtainable goal. The great majority of people of ancient times looked upon disease as a calamity brought about by super natural forces, mysterious powers, beyond human understanding. Medical history is rich in examples of human errors and medical fallibility. It is also rich in examples of man's unceasing search for better medicines and better ways of treating illness and injuries. His search has not been restricted by race, creed or political or geographic boundaries. Whenever a promising idea or discovery has occurred, the doctor has gone to great length to learn about it and to adopt the new discoveries to his treatment of his patients. Many new medicines, new devices or instruments have been made available to all men of medicine through this free exchange of ideas and methods. These advances have been brought about and are continuing through the arduous labor of love by devoted workers blessed with alert, inquisitive minds spurred on by the urge to learn. The development of medical knowledge and skills has not always seemed to be progressive or continuous. It has at times seemed to be like a tangled, tortuous trail with many obstructions. It is no exaggeration to say that advances in medical knowledge and skills have been in large part due to shining individualism. The whole art of medicine lies in observation and interpretation. Hippocrates demonstrated the value of complete study and observation coupled with complete and accurate records. This is illustrated by his description of the history of a patient with chest symptoms, cough, purulent sputum dyspnea, in-

PROCEEDINGS



A. S. Koenig of Fort Smith accepting office of president-elect of the Society at the Wednesday morning session of the House.



Ben N. Saltzman makes his "President's Address" to the House at the session on Sunday afternoon.



Fort Smith physicians Ken Lilly and Kemal Kutait escort the new president-elect, A. S. Koenig, to the rostrum following his election in the House on Wednesday morning.



The House of Delegates was in session for four hours during the convention. This photo was taken during deliberations of the House on Sunday afternoon.

intermittent fever, profuse sweating and anorexia coupled with a percussion note.

Diagnosis: Purulent empyema with a bronchial fistula.

It is not feasible at this time to touch upon all problems that may be encountered by the thoracic surgeon. I shall, therefore, give to you a running account of the development of thoracic surgery as applied in cases of pulmonary tuberculosis, and a summary of present treatment of tuberculosis.

Herodotus (484-424 B.C.) stated that all persons suffering from scrofula and leprosy were isolated.

Lord Lister (1827-1912) and Pasteur (1822-1895) made basic contributions to the prevention and control of infections.

December, 1865, Villemet appeared before the French Academy of Medicine. He presented in detail experiments he had performed and conclusions he had drawn from them. He had actually inoculated material from persons who had tuberculosis or had died of it into the bodies of small animals. They in turn developed the disease. He concluded that tuberculosis was contagious. He said, "Tuberculosis was the effect of a specific causal agent, that ought to be found."

Robert Koch (1847-1910), using the microscope, observed and described (1882) the tubercle bacillus. He postulated the procedure to be followed for its identification. He identified the germ under the microscope using dye to color the germ. He then grew the germ on a culture media, then injected some of the germs from the culture into an animal. The animal developed tuberculosis. He recovered the germ from the diseased animal.

Wilhelm Konrad Roentgen (1845-1922) discovered the Roentgen rays (X-ray) which is one of our most valuable aids in the study of diseases of the chest.

In 1890 Koch prepared from the tubercle bacillus, a substance which he called lymph. Later it was called tuberculin. This material contained no live or dead tubercle bacilli. He thought that it was valuable for the treatment of tuberculosis. It did pave the way for a test to determine the presence of the tubercle bacillus in the body. 1902, Clement Pirquet described a test in which tuberculin was injected in a small amount into

the tissue. Later, 1908, Mantoux administered a measured amount of tuberculin into the layers of the skin. Within 48 hours a reaction occurred. A positive reaction signified the fact that the tubercle bacillus had entered the body. With the causal agent known, with X-ray as a diagnostic agent and with sensitization tests (PPD) to aid in determining whether the germ has entered the body, we have three basic means for differential diagnosis of tuberculosis from other diseases.

As early as 1842, Carson suggested that consumption, the white plague or tuberculosis could be helped through rest obtained by collapse of the diseased portion of the lung. Others in particular, Forlaninia (1847-1918) and J. B. Murphy, 1898, did much to advance the idea of lung rest through collapse, pneumothorax. Meanwhile, fresh air, sunshine and good nourishment were not neglected.

Dr. Edward Livingston Trudeau founded the first sanatorium in the United States in 1882, the little red cottage at Saranac Lake, New York. At the turn of the century, tuberculosis was killing 160,000 people in the United States, 3,000 people died annually in Arkansas. New cases in 1974 — 405; deaths — 22.

At a meeting of the Arkansas Medical Society, May 8, 1908, a resolution was passed calling for the appointing of a committee whose first duty was to lay the groundwork for a sanatorium. An Act was passed by the Legislature (Act 378) authorizing the construction of a sanatorium and approved by Governor Donaghey, May 31, 1909. The first patient being admitted August 2, 1910.

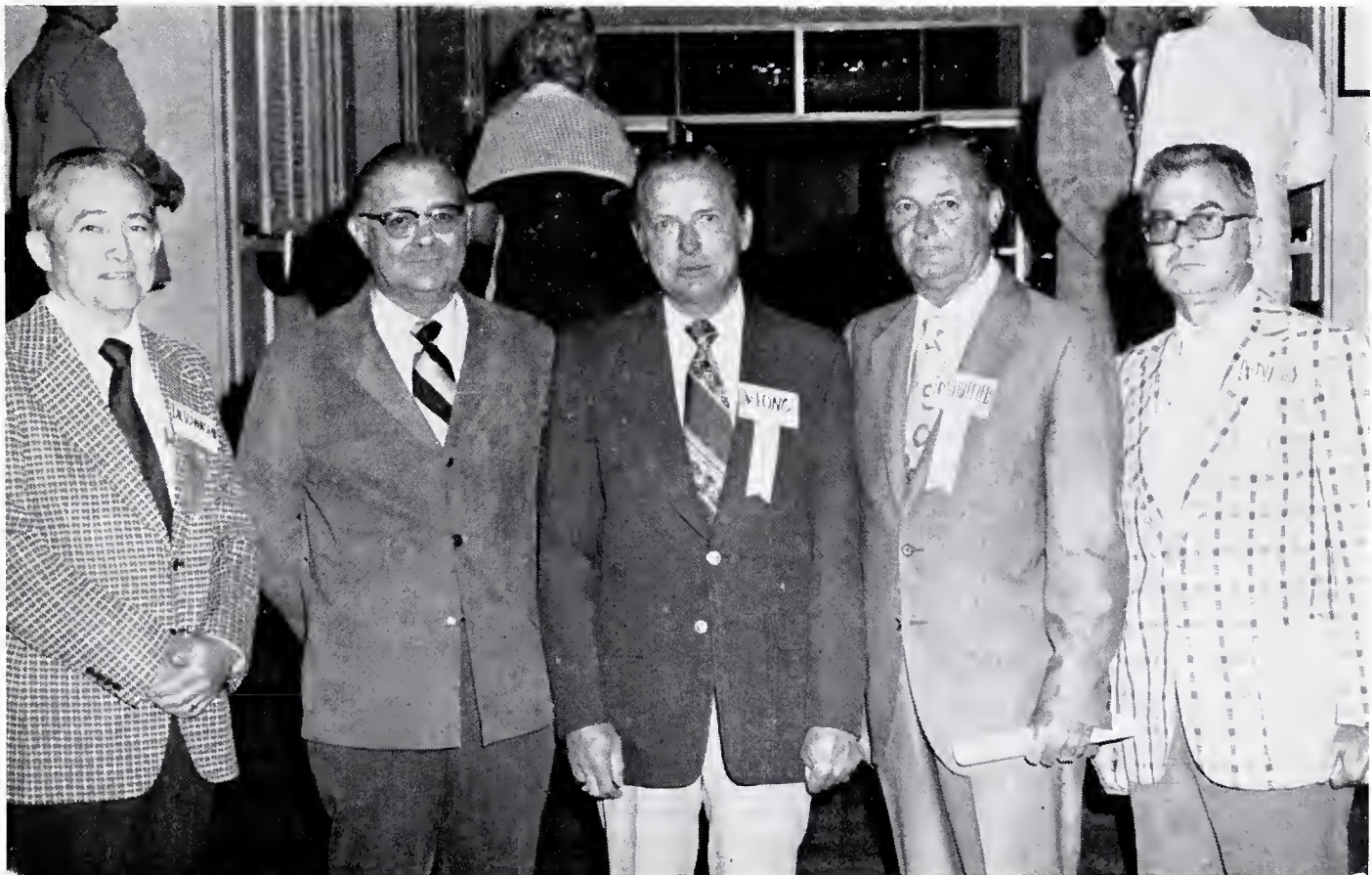
Patients were sent into hospitals or sanatoriums, where they were separated from their families and friends. Nurses and doctors were provided for their medical care. The stay in sanatorium averaged a year or more with no specific medicines available, but some could and did receive pneumothorax unilateral and later even bilateral.

Only about 10% of all tuberculosis patients were suited for pneumothorax because of adhesions between the lung and inner chest wall. Willy Meyer in this country, Sauerbrück in Germany, Archibald in Canada, Hedlbloom, Churchill and Elloesser in the United States, all participated in the pioneering of collapse therapy by thoracoplasty. By 1922, Archibald had per-

PROCEEDINGS



Officers of the Society for 1975-76 are: first row, left to right, Elvin Shuffield, secretary; T. E. Townsend, president; A. S. Koenig, president-elect; C. C. Long, Chairman of the Council; K. R. Duzan, treasurer; (second row) councilors A. E. Andrews, Morris Henry, William S. Orr, Jr., Eldon Fairley, W. Payton Kolb, John B. Kirkley; (third row) councilors Fred C. Inman, Jr., and Curtis Clark, Vice Speaker Charles F. Wilkins, Jr., Speaker Amal Chudy; Councilor Raymond A. Irwin, Robert Watson, past president; (fourth row) councilors Henry Virby, Lynn Harris, first vice president Asa Crow, councilors John P. Burge, Paul Gray, and Kemal Kutait; (back row) councilors John Bell, L. J. Pat Bell, John H. Moore and second vice president Mahlon Maris.



Principal Officers of the Society for 1975-76 are: T. E. Townsend, Pine Bluff, President; A. S. Koenig, Fort Smith, President-elect; C. C. Long, Fort Smith, Chairman of the Council; Elvin Shuffield, Little Rock, Secretary; and Kenneth R. Duzan, El Dorado, Treasurer.

formed 17 thoracoplasties for tuberculosis which was more than any other surgeon on the American continent had performed. There still remained a huge percentage of the tubercular to be aided and the introduction of intra pleural pneumonolysis for freeing of adhesions did aid some patients with otherwise unsatisfactory pneumothorax. Phrenic paralysis permanent or by exeresis or temporary by crushing, plombage with muscles or fat pad or paraffin ball, aided in some cases. Pneumonectomy, lobectomy or segmental resection followed. In addition, there was introduced intra cavity suction drainage which aided in the evacuation of cavity contents and the closure of some cavities. Other cavities, after thorough suction drainage, were deroofed and lined with skin flaps with satisfactory results. Meanwhile, the perfection of controlled anesthesia and the introduction of drugs to aid in the control of infection became available, making possible the expansion of the work. Penicillin, sulfonilamide, INH and later streptomycin were developed and found to be of great value in medical treatment of tuberculosis. Other antibiotics were developed which were anti-tuberculosis drugs.

With the development of these new anti-tubercular antibiotics, it was found that certain strains of tubercle bacilli were resistant to certain antibiotics but by cultural methods each specimen can be grown and identified. It can also be tested as to its resistance to any one or all of the anti-tuberculosis drugs and the most effective drugs determined. Thus we come to a time when we can forego much of the surgery previously necessary in the treatment and control of tuberculosis.

Some patients will require hospitalization in selected hospitals temporarily for indoctrination into the medical regime. These selected hospitals will have the usual hospital equipment; in addition ultra violet light will be installed to destroy the viable tubercle bacilla that may rise toward the ceiling. The routine nursing care will be provided. Doctors will see that the patient is thoroughly indoctrinated as to the need and vital importance of adhering to the program and as to the necessity of taking the prescribed medication regularly, along with the monitoring of sputa and other laboratory studies.

Following this, the patient returns to his home

to be followed closely by the public health nurse with the aid and advice of selected doctors. If physically able, the patient may return to his former work (when his sputa has become negative for tubercle bacillus) continuing his medication for the necessary time which is generally one year after the sputa is negative on smear and culture.

After the patient has completed his medical treatment, he is given a letter to take to his family doctor stating his condition and advising the doctor that should the patient develop any pulmonary symptoms, the public health department will be glad to see the patient.

Note, I hesitate to tell the patient or his doctor that the patient is cured of his tuberculosis; but I do not hesitate to tell both that his tuberculosis is controlled.

The doctors who are trained in our schools today have a better grounding in the fundamental principles of all medical procedures than at any former times.

The future control of tuberculosis depends upon our continued vigilance against misjudgment of a complaint or symptom. A thorough study of the same with all procedures being used to make a proper evaluation of the given complaint or symptom, ever remembering that people travel and come into contact with diseases in their travel, when they return to their homes, they may bring with them tuberculosis and other diseases.

ATTENDANCE

Physicians	473
Medical Students	19
Medical Assistants, Nurses, and Technicians	32
Scientific exhibitors	30
Commercial exhibitors	88
Auxiliary	11
Other Guests	17
.....	671
Auxiliary Registration	135

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY 1975-1976

President	T. E. Townsend, 1420 West 43rd, Pine Bluff 71601
President-elect	A. S. Koenig, 922 Lexington, Fort Smith 72901
First Vice President	Asa A. Crow, 320 South 10th, Paragould 72450
Second Vice President	Mahlon O. Maris, P. O. Box 759, Harrison 72601
Third Vice President	Donald L. Duncan, P. O. Box 778, Texarkana 75501
Secretary	Elvin Shuffield, 9600 West 12th, Little Rock 72205
Treasurer	Kenneth R. Duzan, 443 West Oak, El Dorado 71730
Speaker, House of Delegates	Amail Chudy, 1801 Maple, North Little Rock 72214
Vice Speaker of House	Charles Wilkins, 3005 W. Main Place, Russellville 72801
Journal Editor	Alfred Kahn, Jr., 1300 West Sixth, Little Rock 72201
Delegates to AMA	C. C. Long, P. O. Box 1208, Fort Smith 72901 Purcell Smith, P. O. Box 5675, Little Rock 72205
Alternates	Joe Verser, P. O. Box 106, Harrisburg 72432 T. E. Townsend, 1420 West 43rd, Pine Bluff 71601
Executive Vice President	Mr. Paul C. Schaefer, P. O. Box 1208, Fort Smith 72901

EXECUTIVE COMMITTEE OF THE COUNCIL

Chairman of the Council	C. C. Long, P. O. Box 1208, Fort Smith 72901
President	T. E. Townsend, 1420 West 43rd, Pine Bluff 71601
President-elect	A. S. Koenig, 922 Lexington, Fort Smith 72901
Secretary	Elvin Shuffield, 9600 West 12th, Little Rock 72205

COUNCILORS

Dis- trict	Councilor Term Expires '76	Councilor Term Expires '77	Counties in District
1.	John B. Kirkley P. O. Box 1478 Jonesboro 72401	*Eldon Fairley P. O. Box 68 Osceola 72370	Clay, Craighead, Crittenden, Fulton, Greene, Lawrence, Mississippi, Poinsett, Randolph, and Sharp
2.	John E. Bell 1400 West Pleasure Searcy 72143	*Paul Gray P. O. Box 42 Batesville 72501	Cleburne, Conway, Faulkner, Independence, Izard, Jackson, Stone, and White
3.	*L. J. P. Bell 626 Poplar Helena 72342	Fred C. Inman, Jr. 521 North Williams Carlisle 72024	Arkansas, Cross, Lee, Lonoke, Monroe, Phillips, Prairie, St. Francis, and Woodruff
4.	John P. Burge Lake Village Clinic Lake Village 71653	*Raymond Irwin 1421 Cherry Pine Bluff 71601	Ashley, Chicot, Desha, Drew, Jefferson, and Lincoln
5.	*J. B. Jameson, Jr. 110 Harrison, S.W. Camden 71701	John H. Moore 412 N. Washington El Dorado 71730	Bradley, Calhoun, Cleveland, Columbia, Dallas, Ouachita, and Union

6. *C. Lynn Harris P. O. Box 550 Hope 71801	A. E. Andrews P. O. Box 689 Texarkana 75501	Hempstead, Howard, Lafayette, Little River, Miller, Nevada, Pike, Polk, and Sevier
7. *Robert F. McCrary 505 West Grand Hot Springs 71901	Curtis B. Clark 200 S. Rose Sheridan 72150	Clark, Garland, Grant, Hot Spring, Montgomery, and Saline
8. William S. Orr, Jr. 500 So. University Little Rock 72205	*W. Payton Kolb Medical Towers Bldg. Little Rock 72205	Pulaski
9. *Henry V. Kirby 651 N. Spring Harrison 72601	Morriss M. Henry P. O. Box 1225 Fayetteville 72701	Baxter, Benton, Boone, Carroll, Madison, Marion, Newton, Searcy, Van Buren, and Washington
10. Kemal Kutait 1120 Lexington Fort Smith 72901	*C. C. Long P. O. Box 1208 Fort Smith 72901	Crawford, Franklin, Johnson, Logan, Perry, Pope, Scott, Sebastian, and Yell

*Senior Councilor

1975 OFFICERS — COUNTY MEDICAL SOCIETIES — ARKANSAS MEDICAL SOCIETY

ARKANSAS	Pres.—Carl E. Northcutt, Route 1, Box 21-D, Stuttgart 72160 Secy.—Carl E. Northcutt, Route 1, Box 21-D, Stuttgart 72160
ASHLEY	Pres.—Frederick N. Burt, 310 North Alabama, Crossett 71635 Secy.—James D. Rankin, P. O. Box 232, Hamburg 71646
BAXTER	Pres.—John P. Black, 353 East Eighth, Mountain Home 72653 Secy.—Arthur L. Beard, 126 West Sixth, Mountain Home 72653
BENTON	Pres.—James R. Knapp, Rogers Memorial Hospital, Rogers 72756 Secy.—Jerry L. Hitt, P. O. Box 737, Rogers 72756
BOONE	Pres.—Thomas J. Simpson, 651 North Spring, Harrison 72601 Secy.—Sam J. Scroggins, 520 North Spring, Harrison 72601
BRADLEY	Pres.—Merl T. Crow, 205 East Church, Warren 71671 Secy.—James W. Marsh, 302 North Main, Warren 71671
CHICOT	Pres.—William J. Weaver, P. O. Box Q, Eudora 71640 Secy.—Howard Henjyoti, Lake Village Clinic, Lake Village 71653
CLARK	Pres.—P. R. Anderson, 416 Main, Arkadelphia 71923 Secy.—James T. Blackmon, 1008 Pine, Arkadelphia 71923
CLEBURNE	Pres.—D. H. McClanahan, 401 West Searcy, Heber Springs 72543 Secy.—Eugene H. Ball, Route 2, Box 361A, Heber Springs 72543
COLUMBIA	Pres.—John M. Farmer, 104 East Columbia, Magnolia 71753 Secy.—Robert W. Hunter, 1217 Bluebird, Magnolia 71753
CONWAY	Pres.— Secy.—Thomas L. Buchanan, P. O. Box 677, Morrilton 72110
CRAIGHEAD-POINSETT	Pres.—John B. Kirkley, P. O. Box 1478, Jonesboro 72401 Secy.—W. T. Rainwater, 505 East Matthews, Jonesboro 72401
CRAWFORD	Pres.—Lester R. Darden, P. O. Box 623, Van Buren 72956 Secy.—F. E. Shearer, P. O. Box 458, Alma 72921
CRITTENDEN	Pres.—W. Lee Winters, 11 East Holiday Plaza, West Memphis 72301 Secy.—Keith B. Kennedy, P. O. Box 489, West Memphis 72301
CROSS	Pres.—J. Hosea Young, P. O. Box E, Wynne 72396 Secy.—Robert Hayes, P. O. Box E, Wynne 72396
DALLAS	Pres.—John H. Delamore, P. O. Box 351, Fordyce 71742 Secy.—Hugh A. Nutt, P. O. Box 506, Fordyce 71742
DESHA	Pres.—Guy U. Robinson, 207 S. Elm, Dumas 71639 Secy.—Howard R. Harris, 207 S. Elm, Dumas 71639

PROCEEDINGS

DREW	Pres.—Paul A. Wallick, P. O. Box 660, Monticello 71655 Secy.—Arlee K. Busby, 816 North Hyatt, Monticello 71655
FAULKNER	Pres.—Fred Gordy, 552 Locust, Conway 72032 Secy.—Bob Banister, 923 Parkway, Conway 72032
FRANKLIN	Pres.—C. C. Long, P. O. Box 1208, Fort Smith 72901 Secy.—David L. Gibbons, 504 West Commercial, Ozark 72949
GARLAND	Pres.—E. K. Clardy, P. O. Box 850, Hot Springs 71901 Secy.—Paul Thompson, Jr., 101 Whittington, Hot Springs 71901
GRANT	Pres.—Curtis B. Clark, 200 South Rose, Sheridan 72150 Secy.—Clyde D. Paulk, 200 South Rose, Sheridan 72150
GREENE-CLAY	Pres.— Secy.—George Collier, 130 South 14th, Paragould 72450
HEMPSTEAD	Pres.—James G. Martindale, 116 South Main, Hope 71801 Secy.—Lowell O. Harris, P. O. Box 550, Hope 71801
HOT SPRING	Pres.—N. B. Kersh, 1518 McBee, Malvern 72104 Secy.—Robert H. White, 1004 Dyer, Malvern 72104
HOWARD-PIKE	Pres.—M. H. Wilmoth, P. O. Box 804, Nashville 71852 Secy.—M. H. Wilmoth, P. O. Box 804, Nashville 71852
INDEPENDENCE	Pres.—Charles A. Taylor, 181 South Broad, Batesville 72501 Secy.—Jim E. Lytle, 181 South Broad, Batesville 72501
JACKSON	Pres.—Jerry M. Frankum, Jr., Second and Laurel, Newport 72112 Secy.—John D. Ashley, Jr., Second and Laurel, Newport 72112
JEFFERSON	Pres.—B. J. Jenkins, 1515 West 42nd, Pine Bluff 71601 Secy.—Lloyene Bruce, 1606 West 42nd, Pine Bluff 71601
JOHNSON	Pres.—Guy P. Shrigley, P. O. Box 70, Clarksville 72830 Secy.—Boyce W. West, P. O. Box 668, Clarksville 72830
LAFAYETTE	Pres.—W. J. Lee, P. O. Box 276, Stamps 71860 Secy.—Robert Patton, 214 Main, Stamps 71860
LAWRENCE	Pres.—Sebastian Spades, 421 Southwest Third, Walnut Ridge 72476 Secy.—J. B. Elders, 321 Southwest Third, Walnut Ridge 72476
LEE	Pres.—Dwight W. Gray, 110 Chestnut, Marianna 72360 Secy.—E. C. Fields, 77 West Main, Marianna 72360
LINCOLN	Pres.—James W. Freeland, P. O. Box 159, Star City 71667 Secy.—Richard C. Petty, P. O. Box 580, Star City 71667
LITTLE RIVER	Pres.—Joe G. Shelton, Jr., P. O. Box 697, Ashdown 71822 Secy.—N. W. Peacock, Jr., P. O. Box 397, Ashdown 71822
LOGAN	Pres.—William R. Daniel, 114 West Fourth, Booneville 72927 Secy.—James T. Smith, P. O. Box 286, Paris 72855
LONOKE	Pres.—Willie Harris, 520 Northeast Fourth, England 72046 Secy.—B. E. Holmes, 305 West Front, Lonoke 72086
MILLER	Pres.—Herbert B. Wren, P. O. Box 1409, Texarkana 75501 Secy.—Jack Royal, 300 East Sixth, Texarkana 75501 Exec. Secy.—Mrs. Marilyn Pryor, P. O. Box 1813, Texarkana 75501
MISSISSIPPI	Pres.—E. A. Shaneyfelt, P. O. Box 630, Manila 72442 Secy.—Eldon Fairley, P. O. Box 68, Osceola 72370
MONROE	Pres.—Walter L. Walkery, 114 South New Orleans, Brinkley 72021 Secy.—A. N. Olaimcy, 200 West Cedar, Brinkley 72021
NEVADA	Pres.—Glenn G. Hairston, P. O. Box 675, Prescott 71857 Secy.—H. Blake Crow, 327 East Second, Prescott 71857
OUACHITA	Pres.—Jerry Kendall, 353 Cash Road, Camden 71701 Secy.—L. V. Ozment, 353 Cash Road, Camden 71701
PHILLIPS	Pres.—Henry N. Faulkner, 513 Porter, Helena 72342 Secy.—L. J. P. Bell, 626 Poplar, Helena 72342

PROCEEDINGS

POLK	Pres.—David P. Hefner, 518 Janssen, Mena 71953 Secy.—Henry N. Rogers, 600 West Seventh, Mena 71953
POPE	Pres.—W. M. Williams, 3005 West Main Place, Russellville 72801 Secy.—W. E. King, 3005 West Main Place, Russellville 72801
PULASKI	Pres.—Curry Bradburn, 9600 West 12th, Little Rock 72205 Secy.—Robert Dickens, 750 Medical Towers Bldg., Little Rock 72205 Exec. Secy.—Mr. Paul Harris, 311 Doctors Building, Little Rock 72205
RANDOLPH	Pres.—W. Warren Scott, P. O. Box 585, Pocahontas 72455 Secy.—Norman K. Smith, 107 Van Bibber, Pocahontas 72455
SALINE	Pres.—Helen Rountree, P. O. Box 370, Benton 72015 Secy.—Paul Hogue, 302 West South, Benton 72015
SCOTT	Pres.—Harold B. Wright, P. O. Box 249, Waldron 72958 Secy.—Harold B. Wright, P. O. Box 249, Waldron 72958
SEBASTIAN	Pres.—Hoyt R. Kirkpatrick, 1500 Dodson, Fort Smith 72901 Secy.—W. C. Holmes, Waldron Road at Ellsworth, Fort Smith 72901 Asst. Secy.—Mrs. Jackie Boyd, 3101 Hendricks, Fort Smith 72901
SEVIER	Pres.—Jim C. Citty, P. O. Box 391, DeQueen 71832 Secy.—Olie D. Brown, P. O. Box 890, DeQueen 71832 Exec. Secy.—Mr. Jim E. Pearce, Highway 70 West, DeQueen 71832
ST. FRANCIS	Pres.—Herbert H. Hollis, 317 N. Washington, Forrest City 72335 Secy.—David Lockhart, P. O. Box 70, Forrest City 72335
UNION	Pres.—W. S. Scurlock, 412 N. Washington, El Dorado 71730 Secy.—Peter J. Carroll, 416 North Newton, El Dorado 71730
VAN BUREN	Pres.—C. G. Pearce, Clinton 72031 Secy.—John A. Hall, 302 East Main, Clinton 72031
WASHINGTON	Pres.—Mae Nettleship, P. O. Box 817, Fayetteville 72701 Secy.—Robert Chester, 660 Lollar Lane, Fayetteville 72701
WHITE	Pres.—James A. Simpson, 901 East Race, Searcy 72143 Secy.—Hugh R. Edwards, 601 Woodruff, Searcy 72143
WOODRUFF	Pres.—B. E. Hendrixson, 306 East Third, McCrory 72101 Secy.—James Rowe, 306 East Third, McCrory 72101
YELL	Pres.—James O. Pennington, P. O. Box 68, Ola 72853 Secy.—Walter P. Harris, Dan-Ark Village, Dardanelle 72833
MEDICAL STUDENTS, INTERNS & RESIDENTS	Pres.—Larry L. Doss, 3304 North Cypress, North Little Rock 72116 Secy.—William Hof, 615 North Palm, Little Rock 72205



COMMITTEES — ARKANSAS MEDICAL SOCIETY — 1975-76

	Term Expires		Term Expires
COMMITTEE ON CANCER CONTROL		SUB-COMMITTEE ON MATERNAL AND CHILD WELFARE	
Herbert B. Wren, P. O. Box 1409, Texarkana 75501	1976	J. S. McKinney, 209 Thompson, El Dorado 71730	1976
Charles R. Henry, 500 South University, Little Rock 72205 — <i>CHAIRMAN</i>	1976	Joseph L. Rosenzweig, 236 Woodbine, Hot Springs 71901	1977
David Barclay, 4301 West Markham, Little Rock 72205	1977	E. Stewart Allen, 1100 North University, Little Rock 72207 — <i>CHAIRMAN</i>	1977
John Broadwater, 1500 Dodson, Fort Smith 72901	1977	Virgil Hayden, 1706 West 42nd, Pine Bluff 71601	1978
Gilbert D. Jay, III, 200 South Rhodes, West Memphis 72301	1978	SUB-COMMITTEE ON TUBERCULOSIS	
COMMITTEE ON MEDICAL LEGISLATION		L. J. Pat Bell, 626 Poplar, Helena 72342	1976
Paul L. Rogers, 318 North Greenwood, Fort Smith 72901	1976	Karlton Kemp, 408 Hazel, Texarkana 75501	1976
Martin Eisele, 101 Whittington, Hot Springs 71901	1976	William A. Hudson, P. O. Box 237, Jasper 72641	1977
Robert Watson, 750 Medical Towers Building, Little Rock 72205	1976	Donald Miller, 1515 West 42nd, Pine Bluff 71601 — <i>CHAIRMAN</i>	1977
Morris M. Henry, P. O. Box 1225, Fayetteville 72701	1977	Jim City, P. O. Box 391, DeQueen 71832	1978
Neil E. Compton, P. O. Box 209, Bentonville 72712	1977	Lawrence C. Price, P. O. Box 3006, Fort Smith 72901	1978
Donald Browning, 409 North University, Little Rock 72205	1977	COMMITTEE ON AGING	
Elvin Shuffield, 9600 West 12th, Little Rock 72205 — <i>CHAIRMAN</i>	1978	Gordon P. Oates, 1612 Maryland, Little Rock 72202 — <i>CHAIRMAN</i>	1976
Joe Verser, P. O. Box 106, Harrisburg 72432	1978	Bill D. Stewart, 415 North University, Little Rock 72205	1976
George Warren, P. O. Box W, Smackover 71762	1978	Thomas E. Burrow, 903 West Grand, Hot Springs 71901	1976
SUB-COMMITTEE ON NATIONAL LEGISLATION		John F. Guentlner, 126 West 6th, Mountain Home 72653	1977
William S. Orr, Jr., 500 South University, Little Rock 72205 — <i>CHAIRMAN</i>	1976	Friedman Sisco, P. O. Box 65, Springdale 72761	1977
Morris M. Henry, P. O. Box 1225, Fayetteville 72701	1976	Woodbridge Morris, 5326 West Markham, Little Rock 72205	1978
Jacob P. Ellis, 714 West Faulkner, El Dorado 71730	1977	SUB-COMMITTEE ON PHYSICAL FITNESS AND SCHOOL HEALTH	
Dale Alford, 5700 West Markham, Little Rock 72205	1977	Coy C. Kaylor, 1673 North College, Fayetteville 72701	1976
Jerry Mann, 416 Main, Arkadelphia 71923	1978	James Sanders, 505 East Matthews, Jonesboro 72401	1976
James M. Kolb, Jr., Skyline Dr., Rt. 3, Box 12A, Russellville 72801	1978	Ralph Ingram, 1120 Lexington, Fort Smith 72901	1976
COMMITTEE ON PUBLIC HEALTH		Kemal Kutait, 1120 Lexington, Fort Smith 72901	1977
Ben N. Saltzman, 4301 West Markham, Little Rock 72205 — <i>CHAIRMAN</i>	1976	Francis M. Henderson, 1515 West 42nd, Pine Bluff 71601	1977
Bryant S. Swindoll, 4815 West Markham, Little Rock 72205	1976	Francis Buchanan, 500 South University, Little Rock 72205 — <i>CHAIRMAN</i>	1978
Edgar J. Easley, 4815 West Markham, Little Rock 72205	1977	SUB-COMMITTEE ON INDUSTRIAL HEALTH	
Milton D. Deneke, P. O. Box 607, West Memphis 72301	1977	Paul G. Henley, 700 West Faulkner, El Dorado 71730	1976
C. Lewis Hyatt, 515 North Main, Monticello 71655	1977	H. Blake Crow, 327 East Second, Prescott 71857	1976
Wade Burnside, 207 East Dickson, Fayetteville 72701	1978	Noel Ferguson, 651 North Spring, Harrison 72601	1977
Ralph R. Wooley, P. O. Box 7267, Pine Bluff 71601	1978		

PROCEEDINGS

	Term Expires		Term Expires
Gwyn Atnip, 1111 West 15th, Pine Bluff 71601	1977	Robert Miller, 616 Elm Street, Helena 72342	1977
I. Leighton Millard, P. O. Box 5270, Little Rock 72205 — <i>CHAIRMAN</i>	1978	Ashley S. Ross, 500 South University, Little Rock 72205	1977
Howard Schwander, 9600 West 12th, Little Rock 72205	1978	Jean Gladden, P. O. Box 1118, Harrison 72601	1977
COMMITTEE ON MENTAL HEALTH		Samuel B. Thompson, 1100 North University, Little Rock 72207	1978
William O. Young, 135 Evergreen Place, Little Rock 72207	1976	Thomas M. Durlham, Jr., 505 West Grand, Hot Springs 71901	1978
James M. Robinette, 923 Union, Jonesboro 72401	1976	COMMITTEE ON MEDICAL EDUCATION	
Albert Clowney, 312 Thompson, El Dorado 71730	1976	Jacob Ellis, 714 West Faulkner, El Dorado 71730, Dist. 5	1976
Henry Hearnberger, 4313 West Markham, Little Rock 72205	1977	Lee Parker, Jr., 241 West Spring, Fayetteville 72701, Dist. 9 — <i>CHAIRMAN</i>	1976
Amail Chudy, 1801 Maple, North Little Rock 72114	1977	Bobby McKee, 505 East Matthews, Jonesboro 72401, Dist. 1	1976
Robert G. Carnahan, 4313 West Markham, Little Rock 72205	1978	Bernard Capes, P. O. Box 2398, West Helena 72390, Dist. 3	1976
W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205 — <i>CHAIRMAN</i>	1978	Raymond V. Biondo, 406 West 26th, North Little Rock 72114, Dist. 8	1977
William Joseph James, 2500 Rike Drive, Pine Bluff 71601	1978	C. Lewis Hyatt, 515 North Main, Monticello 71655, Dist. 4	1977
IMMUNIZATION SUB-COMMITTEE		Robert H. White, 1004 Dyer, Malvern 72104, Dist. 7	1977
Vida H. Gordon, 4301 West Markham, Little Rock 72205	1976	W. M. Wells, Fourth and Spring, Heber Springs 72543, Dist. 2	1977
Charles E. Kemp, 809 Cobb, Jonesboro 72401 — <i>CHAIRMAN</i>	1976	William G. Lockhart, 1500 Dodson, Fort Smith 72901, Dist. 10	1978
Guy U. Robinson, 207 South Elm, Dumas 71639	1977	Robert D. Dickins, Jr., 750 Medical Towers, Little Rock 72205, Dist. 8	1978
Horace L. Green, 1420 West 43rd, Pine Bluff 71601	1978	C. Lynn Harris, P. O. Box 550, Hope 71801, Dist. 6	1978
Mahlon Maris, P. O. Box 759, Harrison 72601	1978	COMMITTEE ON HOSPITALS	
Betty A. Lowe, 300 East Sixth, Texarkana 75501	1978	Art B. Martin, 1500 Dodson, Fort Smith 72901 — <i>CHAIRMAN</i>	1976
Calvin Austin, 1210 DeQueen, Mena 71953	1978	George K. Mitchell, P. O. Box 2181, Little Rock 72203	1976
SUB-COMMITTEE ON TRAFFIC SAFETY		George W. Warren, P. O. Box W, Smackover 71762	1977
Carl L. Williams, 522 South 16th, Fort Smith 72901 — <i>CHAIRMAN</i>	1976	Raymond A. Irwin, Jr., 1421 Cherry, Pine Bluff 71601	1977
John P. Burge, Lake Village Clinic, Lake Village 71653	1976	Paul N. Means, 3 Hearthside Drive, Little Rock 72207	1978
Guy U. Robinson, 207 South Elm, Dumas 71639	1977	Peter J. Irwin, 1500 Dodson, Fort Smith 72901	1978
James G. Stuckey, Jr., 500 South University, Little Rock 72205	1978	COMMITTEE ON PUBLIC RELATIONS	
H. Austin Grimes, P. O. Box 5270, Little Rock 72205	1978	G. Thomas Jansen, 500 South University, Little Rock 72205	1976
Donald L. Duncan, P. O. Box 778, Texarkana 75501	1978	Milton Dencke, P. O. Box 607, West Memphis 72301	1976
Louise M. Henry, P. O. Box 1225, Fayetteville 72701	1978	Joseph A. Norton, 8570 Cantrell Road, Little Rock 72207	1977
SUB-COMMITTEE ON LIAISON WITH VOCATIONAL REHABILITATION		Nathan L. Poff, 401 West Searcy, Heber Springs 72543	1977
John P. Wood, 907 Mena, Mena 71953 — <i>CHAIRMAN</i>	1976	A. C. Bradford, Waldron Road at Ellsworth, Fort Smith 72901	1978
H. King Wade, Jr., 231 Central, Hot Springs 71901	1976	W. Ray Jouett, 750 Medical Towers Building, Little Rock 72205 — <i>CHAIRMAN</i>	1978

PROCEEDINGS

	Term Expires		Term Expires
SUB-COMMITTEE ON LIAISON WITH THE AUXILIARY		J. Harry Hayes, Jr., 500 South University, Little Rock 72205	1978
Amail Chudy, 1801 Maple, North Little Rock 72114 — <i>CHAIRMAN</i>	1976	Banks Blackwell, 7400 West 43rd, Pine Bluff 71601 — <i>CHAIRMAN</i>	1978
Curtis Clark, 200 South Rose, Sheridan 72150	1976	COMMITTEE ON MEDICINE AND RELIGION	
Carl Wilson, 1500 Dodson, Fort Smith 72901	1976	Calvin D. Austin, 1210 DeQueen, Mena 71953	1976
Walter S. Mizell, Benton Unit, State Hospital 72158	1976	Carl E. Wenger, 330 Medical Towers Building, Little Rock 72205	1976
SUB-COMMITTEE ON STATE HEALTH AND MEDICAL RESOURCES FOR CIVIL DEFENSE		Fred O. Henker, 4301 West Markham, Little Rock 72205	1977
Hugh R. Edwards, 601 Woodruff, Searcy 72143	1976	W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205	1977
James T. Blackmon, 1008 Pine, Arkadelphia 71923	1977	C. Randolph Ellis, 1004 South Main, Malvern 72104 — <i>CHAIRMAN</i>	1978
Monroe D. McClain, 1419 North Hughes, Little Rock 72207	1977	Kenneth Lilly, 1120 Lexington, Fort Smith 72901	1978
Robert L. Kerr, P. O. Box 432, Mountain Home 72653	1977	COMMITTEE ON ARRANGEMENTS FOR ANNUAL SESSION	
Ralph R. Wooley, P. O. Box 7267, Pine Bluff 71601 — <i>CHAIRMAN</i>	1977	Winston K. Shorey, 4301 West Markham, Little Rock 72205	1976
Alvin Strauss, Jr., 110 East 7th, Little Rock 72201	1978	Gilbert S. Campbell, 4301 West Markham, Little Rock 72205	1976
ADVISORY COMMITTEE TO THE MEDICAL ASSISTANTS SOCIETY		W. T. Dungan, 4301 West Markham, Little Rock 72205	1976
John L. Dedman, Jr., 415 Hospital Drive, S.W., Camden 71701	1976	Robert F. McCrary, 505 West Grand, Hot Springs 71901	1977
W. Y. Springer, 901 West Grand, Hot Springs 71901 — <i>CHAIRMAN</i>	1977	Frank M. Burton, 101 Whittington, Hot Springs 71901	1977
L. K. Austin, 6213 Lee, Little Rock 72205	1977	George H. Collier, Jr., 901 West Kingshighway, Paragould 72450	1977
Wayne G. Elliott, 443 West Oak, El Dorado 71730	1977	Charles A. Taylor, 181 South Broad, Batesville 72501	1977
G. Grimsley Graham, 5326 West Markham, Little Rock 72205	1978	Asa Crow, 320 South 10th, Paragould 72450 — <i>CHAIRMAN</i>	1978
William Robert Nixon, 709 West 6th, Pine Bluff 71601	1978	Joseph Robinette, 1722 Doctors Drive, Pine Bluff 71601	1978
COMMITTEE ON VETERANS ADMINISTRATION AFFAIRS		G. Thomas Jansen, 500 South University, Little Rock 72205	1978
Joseph W. Ledbetter, 804 South Church, Jonesboro 72401	1976	COUNCIL COMMITTEES	
Chalmers S. Pool, VA Hospital, North Little Rock 72114	1977	PHYSICIAN-NURSE JOINT PRACTICE COMMITTEE	
Jack W. Kennedy, P. O. Box 149, Hot Springs Village 71901	1977	J. R. Pierce, Jr., 1712 West 42nd, Pine Bluff 71601	
John W. Dorman, 1203 Sunset, Springdale 72764	1977	A. T. Gillespie, 500 South University, Little Rock 72205	
Warren Murry, 1719 North College, Fayetteville 72701 — <i>CHAIRMAN</i>	1977	Robert Watson, 750 Medical Towers Building, Little Rock 72205 — <i>CHAIRMAN</i>	
COMMITTEE ON INSURANCE		Charles E. Tommey, 4412 North Washington, El Dorado 71730	
John D. Wright, 321 Short Street, Benton 72015	1976	Jerry Holton, 500 South University, Little Rock 72205	
James R. Weber, P. O. Box 188, Jacksonville 72076	1976	Guy R. Farris, 6213 Lee, Little Rock 72205	
Charles F. Wilkins, 3005 West Main Place, Russellville 72801	1977	COMMITTEE ON CONSTITUTIONAL REVISION	
Dale Briggs, 500 South University, Little Rock 72205	1977	Lee Parker, Jr., 211 West Spring, Fayetteville 72701 — <i>CHAIRMAN</i>	
		J. Harry Hayes, 500 South University, Little Rock 72205	

Paul L. Rogers, 318 North Greenwood,
Fort Smith 72901
H. King Wade, Jr., 231 Central,
Hot Springs 71901
Ross E. Maynard, 303 National Building,
Pine Bluff 71601

BUDGET COMMITTEE

C. C. Long, P. O. Box 1208,
Fort Smith 72901
H. W. Thomas, 105 North Freeman,
Dermott 71638 — *CHAIRMAN*
K. R. Duzan, 443 West Oak,
El Dorado 71730

SENIOR MEDICAL DAY COMMITTEE

Ralph A. Downs, 500 South University,
Little Rock 72205 — *CHAIRMAN*
Calvin R. Simmons, 1714 West 42nd,
Pine Bluff 71601

LIAISON COMMITTEE WITH
STATE WELFARE DEPARTMENT
(Composed of Executive Committee)

COMMITTEE ON PHARMACY

Willie R. Harris, 5326 West Markham,
Little Rock 72205 — *CHAIRMAN*
Art B. Martin, 1500 Dodson,
Fort Smith 72901

ARKANSAS STATE ADVISORY COMMITTEE
TO THE SELECTIVE SERVICE SYSTEM

Joseph W. Ledbetter, 804 South Church,
Jonesboro 72401
T. S. Van Duyn, P. O. Box 110,
Stuttgart 72160
Allen R. Russell, 12 Southern Pines Drive,
Pine Bluff 71601
James F. Clark, 524 West Faulkner,
El Dorado 71730
Frank M. Burton, 101 Whittington,
Hot Springs 71901
Robert A. Calcote, 218 Donaghey Building,
Little Rock 72201
Ulys Jackson, 118 South Pine,
Harrison 72601
Friedman Sisco, P. O. Box 65,
Springdale 72764
L. A. Whittaker, Jr., 708 Lexington,
Fort Smith 72901 — *CHAIRMAN*

STUDENT AMA LIAISON COMMITTEE

Alfred Kahn, Jr., 1300 West Sixth,
Little Rock 72201 — *CHAIRMAN*
Elvin Shuffield, 9600 West 12th,
Little Rock 72205
Thomas D. Honeycutt, 4124 West 11th,
Little Rock 72204

MEDICAL SCHOOL COMMITTEE

Ross Fowler, 217 West Stephenson,
Harrison 72601 — *CHAIRMAN*
Asa A. Crow, 320 South 10th,
Paragould 72450
H. W. Thomas, 105 North Freeman,
Dermott 71638
C. Lewis Hyatt, 515 North Main,
Monticello 71655
Kemal Kutait, 1120 Lexington, Fort Smith 72901

PRIVATE INSURANCE REVIEW COMMITTEE

Robert McCrary, 505 West Grand,
Hot Springs 71901 — *CHAIRMAN*
Rhys Williams, P. O. Box 1118,
Harrison 72601
Austin Grimes, P. O. Box 5270,
Little Rock 72205
W. Sexton Lewis, 9600 West 12th,
Little Rock 72205
Kemal Kutait, 1120 Lexington,
Fort Smith 72901

AD HOC COMMITTEE (HOUSE COMMITTEE)
ON REPEAL OF PSRO

Ken Lilly, 1120 Lexington,
Fort Smith 72901 — *CHAIRMAN*
George Roberson, 1708 Doctors Drive,
Pine Bluff 71601
George Burton, 427 West Oak,
El Dorado 71730
Noel Ferguson, 651 North Spring,
Harrison 72601
Berry L. Moore, 615 West Grove,
El Dorado 71730

MEDICAID UNDERUTILIZATION COMMITTEE

Art Martin, 1500 Dodson,
Fort Smith 72901 — *CHAIRMAN*
Milton Deneke, P. O. Box 607,
West Memphis 72301
Joseph Rosenzweig, 236 Woodbine,
Hot Springs 71901
James Mashburn, 207 East Dickson,
Fayetteville 72701
Thomas Honeycutt, 4124 West 11th,
Little Rock 72204



The Hot Springs Medical Journal Revisited

Its First Year, 1892

Ronald D. Greenwood, M.D.*

At the turn of the century, Hot Springs, Arkansas could boast of its own medical journal. The first number (Vol. 1, No. 1) was published January 15, 1892. The reason for a medical journal in Hot Springs was stated.

"The query has been put by certain medical friends to the projectors of the Hot Springs Medical Journal why such a periodical is necessary or desirable, when we already have at the State Capital, in close proximity, a most excellent monthly publication, and when, in a distance of only twelve hours, are found one or more journals of like character in Memphis and a dozen or more in St. Louis."

"The city of Hot Springs, Arkansas, is . . . the greatest sanitarium on earth, and in a few years is inevitably destined to become the most universally frequented health resort in the world. Yet, notwithstanding that more than 50,000 visitors were received here during the last twelve months, it is almost incredible how little is known by the profession at large of the virtues and limitations of these waters, and how gross are the errors, the misapprehensions and even the suspicions of the average medical mind regarding Hot Springs."

Thus, one of the primary reasons was the natural hot springs for which the city was named. The editor continued:

"It has been the misfortunes of Hot Springs that too many patients are daily sent here whose diseases are not amenable to treatment by these waters, and whose cases are, in many instances aggravated thereby."

Lest one becomes too critical of these statements one must remember the state of the art of medicine in this country in 1892 was quite backward by our standards today.

The principles of publication were of a high standard:

"It will be, as far as possible, impersonal in its conduct, fearless in its presentation of medical facts, and theories, courteous in its intercourse with the medical press and unsparing in its denunciation of every infraction of medical ethics. With these aims and aspirations it presents its claim to the profession with modest confidence and asks from its contemporaries a fraternal welcome and a cordial God Speed!"

The Journal was available for the stately price of \$1.00 per year or \$.10 for a single copy. In Little Rock, the Journal of the Arkansas Medical Society was in Volume II of publication and in-

terestingly, was the high rate of \$2.00 per year or \$.25 a copy.

The first issue contained two original articles: "Temperature No Guide in Peritonitis" by H. C. Dalton, Superintendent of City Hospital, St. Louis, and "Observations in Bone Surgery" by M. G. Thompson, M.D., of Hot Springs.

The remainder of this issue was filled with reports of medical societies, editorials, reviews from other publications and news and notes. Interspersed are a number of advertisements. These are of some interest to the visitor or current resident; many of these structures shown in pictures still stand. Also are details on how to get to Hot Springs from various cities. In general, the Journal was quite an achievement for the city.

Hot Springs was already quite a tourist area in 1892. The resident population was 15,000 and there were over three times this number of visitors (50,000). There were three banks, ten schools and eighteen churches and over 500 hotels or boarding houses with twenty bath houses. Hot Springs had fifty-seven physicians at this time.

The individuals involved in this venture in publication were J. M. Keller, M.D., S. W. Franklin, M.D., Thomas E. Holland, M.D., and J. C. Minor, M.D.

The next issue devoted itself to a detailed review of Hot Springs as a resort. The article was by Dr. J. M. Keller and titled "The Hot Springs of Arkansas as a Health Resort." He reviewed the location of the city, details of the 71 springs including analysis of the water and temperature. Then a discussion of diseases helped by the springs followed.

"To adopt the sweeping wholesale list of diseases published by many candidates for practice here as cureable by the hot water would do great violence to truth, and as has already been done, great injury to the springs. To believe the circulars and other advertisements scattered over the country broadcast by some of the resident and itinerant doctors who come and go from here with almost each change of the moon, would be to believe that the 'fabled box' would have again to be opened to find an ill incurable by the spring."

*From the Children's Hospital Medical Center and Harvard Medical School, Boston, Massachusetts.

"For years scarce any other class of disease came here besides syphilitic and rheumatic cases, and a visit to the place was secretly made by those who came. . . . It is true that syphilitic troubles are relieved here more rapidly and certainly than anywhere else that I know of. Experience in the treatment of this disease, in private practice and in hospitals, for twenty five years, and an intimate acquaintance with the springs for twenty years force this assertion. If asked, does the water itself cure syphilis? I answer positively, no.

"If asked how it acts to effect more rapid and certain cures, the answer is simply, that by its eliminative and diaphoretic power the patient is enabled to take, if necessary, tenfold more mercury and potash than he could possibly take without its aid.

"By far the largest class of patients who come here are rheumatics, and it is those of the chronic form that are benefitted most."

Other "speedy cures" were noted in "most neurologic cases" in which "the baths seemingly to act magically." Scrofulous diathesis, uterine troubles, climateric ills in women, diseases in the bladder, urethral tract, kidneys, incipient spinal trouble, skin diseases, alcoholism, nicotineism were all disease that were felt to be "better treated here than I have even been able to treat them elsewhere."

Dr. William H. Barry, President of the Board of Health of the City of Hot Springs, contributed "Hot Springs — the Medicinal Properties of the Hot Waters" to the June 1892 issue. He felt that "mineral waters are generally considered valuable according to the amount of their mineral constituents; but the chief value of same thermal and cold medicinal waters depends not so much on their mineral constituents as upon their purity."

One further note of his was that free carbonic acid was "the constituent in all waters that remedies them palatable and agreeable to the stomach" and that the hot waters were "super-saturated" with this free carbonic acid gas. Thus, this, in his mind, explained their remarkable cures of indigestion.

Along with the influx of visitors seeking medical help, there were dishonest practices. A circular adopted by the city council of Hot Springs, March 1, 1890, and signed by the Mayor, John Langhran, was distributed. Its contents were included in Vol. 1, No. 2 was an editorial note:

"A warning to you. Don't listen to anyone who volunteers advice about doctors, no regular physician will require more than \$5 in advance.

"If you have letters to a physician, deliver them in person. If drummers find you have such letters, they

will tell you the doctor is out of the city, dead, quite practically drunk or something of the kind.

"Drummers on the trains, on the streets, or at the hotels, or boarding houses will pretend that they are visitors."

The visitors were flocking, encouraged by various articles expounding the greatness of the city. Excerpts are included in the Hot Springs Medical Journal under News and Notes. Examples include:

"Thousands of Lives Saved — The renowned resort of Hot Springs, Arkansas, with its palatial hotels and Oriental bathing establishments is proving the greatest attraction to pleasure seekers on this side of the Atlantic . . . —Medical Mirror."

"Relief for La Grippe Sufferers — If it were better known that Hot Springs, Arkansas, was a haven for mankind when suffering from "la grippe" those afflicted with it would buy a ticket via . . . —Star Sayings."

Although these articles were accurately representing these physicians opinions, it cannot be said that all appearing in the editorial section was without bias:

"While every other town north and south is covered with snow, ice, la grippe, pneumonia and other similar kinds of disagreeable weather, Hot Springs, nestled away in its southern exposure between its picturesque mountain barriers is smiled upon day after day by joyous old Sol, and blessed with mild weather and wholesome air."

To aid in the influx in February, 1892, the Iron Mountain System added a new train, "The Hot Springs Express" added to the Arkansas Gazette, "To accommodate the tide of visitors to the great health resort."

Included in the editorial section of the April 15, 1892, issue was the case of a doctor accused of bad practices. Its title was "That Drumming Case."

"One Dr. _____ was cited to appear before the Garland County Medical Examining Board, to show cause why his license should not be revoked. The complaint was made by eight or nine visitors. After hearing all the witnesses on each side and considering the matter, the Garland County Board revoked his license to practice medicine in the state of Arkansas."

This doctor had been found guilty of serious charges — using drummers, subsidizing boarding houses, obtaining fees on a written guarantee of cure, and advertising business.

The Journal stated its intent to establish good medical practice:

"The Hot Springs Medical Journal will do all it can toward weeding and stamping out the irregular and unprofessional practices which have gone far to mar the reputation of this, the greatest sanitarium on the continent. We invite the hearty support of the medical

press, and profession at large, in this work, and in return we will furnish in these pages typical cases from this, the greatest of clinics, and show them the rapid and satisfactory progress in connection with these waters. We will also try and advise and instruct the profession as to the character of cases that should never be sent here for treatment as the hot water is unquestionably prejudicial to quite a number of the diseases of the land."

Syphilis was a frequent topic for discussion in the Journal. In April 1892, Dr. M. A. Thompson estimated that 10,000 pounds of mercurial ointment was annually dispersed in the city. Dr. Thompson reviewed "Mercury in the Treatment of Syphilis." His suggestions included:

"First be sure the patient has syphilis, and then if there is no threatened lesion, commence by giving 1/2 grain calomel at night, and in three or four nights, increase to a grain, having the patient to move his bowels with the syringe, if the calomel does not operate. On the contrary, if it generates too often return to the 1/2 grain dose, and in two or three weeks, when he has acquired a degree of tolerance for this dose, discontinue and have him rub 1/2 grain mercurial ointment at night and increase to 1 dr., seeing the patient daily. And any time he has griping pains or diarrhea, have him discontinue the rubbing and return to the grain or half grain of calomel for a few nights, having the patient to take hot baths daily to prevent the cumulative and bad effects of the mercury. This treatment is to be continued from four to eight weeks—the patient's degree of tolerance to decide when we should discontinue the injunctions. This brings the patient under the constitutional effects of the mercury—the gums become spongy and soft, the blood partially defibrinized, and a metallic taste in the month. Then, return to the half grain or grain of calomel at night, occasionally allowing two grains, and continue this for a year without *any intermission*; then discontinue for five or six months, using iodide of potash or soda. For two or three years the patient should be brought under the influence of mercury for a few weeks at a time—for if we try to keep that patient at the point of salivation, there will be all the toxical effects of the mercury, or the patient will decide that the remedy is worse than the disease and look for advertised blood purifiers, tonics, etc., for it is a well established fact that nine-tenths of the patients that take quack nostrums, have been forced to do so from the bad treatment of their medical adviser."

Dr. G. C. Koch in the August, 1892, issue discussed "Treatment of Syphilis by Hypodermic Injections." He noted that:

"The most proper place on the body used for mercurial injection is the back between the shoulders and the nates while the use of the syringe on the extremities ought to be strictly depreciated. The technique of the injections is precisely the same as is used by the injection of other drugs, only, in using the insoluble preparations, the needle ought to be inserted

horizontally into the muscles, and the solution should be prepared freshly for every injection.

"The efficacy of the hypodermic injections in the treatment of syphilis consists mainly in the rapidity with which they are taken in and afterward expelled from the circulation.

"The number of the injections necessary for a cure average about thirty—exclusive of the insoluble preparations; at any rate it is not advisable to make more than forty injections."

The contributors increased in number and papers arrived from surrounding and far distant states. Both articles and advertisements (both local firms and national establishments) increased.

Such additions as "Practical Points" and "The Funny Medical World" became regular features. By the end of the first year, there were 16 pages of advertising excluding covers and 24 pages of articles and comments. Reviews of important papers in national and international journals were included. Especially frequent were mixtures and preparations useful as remedies. The problem of delinquent physicians continued to be a large one and numerous editorials, cartoons in "The Funny Medical World" were devoted to this. The state legislature passed a bill in 1892 that revoked a doctor's license to practice if he employed drummers. And, doctors who "indulged in employing drummers" met and published their names "over a pledge to sin no more."

In 1892, examples of operations being performed are noted in the Journal. Drs. Barry and Barry of Hot Springs reported in the November, 1892, issue. Excerpts of these practices follow:

"Case VII. Removal of Tibia. I. S., age 41, married man, a bridge builder. A very large phagedenic ulcer on left leg just above the ankle. Had suffered from frequent severe hemorrhages. He was placed under tonic treatment and nutritious diet with a hope of building him up and then removing the diseased bone, but he grew rapidly weaker every day. After consultation it was decided to operate without delay.

"January 20, 1892, removed six and one-half inches of the entire tibia. The dressing consisted of iodoform, closing the wound, and then oiled silk, absorbent cotton and plaster paris bandages. The leg was elevated for thirty minutes.

"January 27th, removed dressing. No clot. Gangrene in instep of foot. Dressed with charcoal, which was removed daily and replaced. Gave stimulating diet, wine and eggnog.

"February 4th, lanced a large abscess over lumbar vertebra. Discharged a gallon of offensive pus.

"February 7th, lanced the abscess again, and it discharged one-half gallon of sonious, offensive pus.

"Result — He rapidly grew weaker, and died on February 16, 1892.

"A post mortem showed caries of sacrum and also fibula of leg operated on. Chloroform."

This case exemplifies the early state of medical practice in these years.

Another interesting treatment note (Feb. 1892) is "Obesity — Its Treatment At Hot Springs." Weight reductions of 95 pounds (250 to 155) in three weeks with dietary restriction, six or eight drops of liquor potassae in water every four hours and daily hot baths. Another case reported by a "reliable physician" was a reduction from 435 pounds to 142 of "solid flesh."

By the turn of the century, the Hot Springs Medical Journal would be 400 pages yearly in length and would attract authors from distant states.

The first volume of the Hot Springs Medical Journal contains not only great expectations of the city as a resort, enthusiasm in medical writing but a view of a unique era of medical practice and the picture of Hot Springs in its "heyday."

REFERENCES

Hot Springs Medical Journal, Vols. 1-16, 1892-1907.

ACKNOWLEDGMENTS

I am grateful to the Francis A. Countway Library of Medicine of Harvard Medical School, Boston, Massachusetts, for use of its historical materials.



The Management of Acute Genitourinary Infections

John F. Redman, M.D.* and Nabil K. Bissada, M.D.*

The treatment of acute infections of the genitourinary system is an everyday occurrence for the family physician. His correct management of these infections, as the primary physician, is all important. Failure to do so often yields far more complicated situations. Irreparable damage may ensue.

General Principles of Treatment

Five general principles for the correct treatment of acute genitourinary infection may be stated:

- 1) Confirm the presence of the infection.
- 2) Choose an appropriate antimicrobial agent on the basis of certain criteria.
- 3) Treat with an adequate dosage of the agent for an adequate length of time.
- 4) Institute an evaluation for causative factor of the infection.
- 5) Plan for systematic follow-up of the patient.

It is unfortunate that frequently patients are treated for infections that they do not have. This error occurs because physicians fail to confirm the presence of an infection that is suggested by symptoms. Positive identification is made by the visualization of bacteria in the urine. The urine examination is only as valid as the urine that is submitted for examination. The collection of the urine specimen is the key. The patient's knowledge of collecting techniques should not be assumed. All details should be explained fully. For men and boys the collection of urine is easy. The prepuce, if present, should be retracted and the meatus and glans cleaned. A two bottle collection is preferred. Two bottle collection infers the initial voiding of 10-15 cc. of urine in a container followed by the mid-portion of the urinary stream. For boys too young to void on command the problem may be solved by being alert enough to have a wide-mouthed container ready when the diaper is removed. All are familiar with the spontaneous voiding which often takes place. Two other alternatives are to cleanse the penis and apply a plastic collection device or to aspirate urine via a suprapubic needle puncture. Catheterization

of young boys should be avoided for urine collection.

Women and older girls may be taught to cleanse the vulva and catch a midstream urine specimen. This is not an easy task. The problem of collecting is more difficult with young girls and infants. Alternatives are catheterization, the application of a plastic collecting bag, or suprapubic needle aspiration. In females unless the urine is collected by catheterization or suprapubic needle aspiration, bacteria is not diagnostic of a urinary tract infection. Bacteria identified in urine collected otherwise should be confirmed by using one of these techniques prior to treatment. Urine obtained by the clean catch collection is valid only if the urine obtained is negative for bacteria.

For the patient with symptoms of an acute infection, waiting for colony counts is obviously not feasible. Catheterization of females if done correctly causes little risk. A cavalier approach toward catheterization often occurs, and the procedure is usually assigned to those with minimal training.

The urine examination in patients with acute infection should be done by the physician himself. The time spent is minimal, and the information gained is tremendous. A decision should be made regarding culture of the urine. All patients with urinary tract infection do not require cultures, and each patient should be individualized. Certainly the culture is invaluable, both for identifying the presence of bacteria when none were seen on urine analysis and for providing sensitivity studies.

Choosing an appropriate antimicrobial agent to treat an infection is often based on whimsy, influencing advertisements or habit. Physicians will provide more intelligent treatment if they first apply certain criteria to their choice of an antimicrobial agent. These criteria should include: the organ that is involved with the infection; the severity of the infection; the sensitivity of the organism to the agent; serum, tissue, and urine levels of the agent; side effects and toxicities; cost; route of administration; and proclivity to form resistant strains of organisms. As more and varied antimicrobial agents become available, it becomes increasingly necessary for

*Division of Urology, University of Arkansas Medical Center, Little Rock, Arkansas. Address correspondence to: John F. Redman, M.D., Division of Urology, University of Arkansas Medical Center, Little Rock, Arkansas 72201.

each physician to think out these criteria for each agent.

A single dosage form of an antimicrobial agent is not suitable for every patient. Dosages vary with the weight and age of the patient and the severity of the infection and should be calculated accordingly. This information is usually supplied with the agent.

Length of time of treatment is controversial. It varies with the infection and with the medication. Urinary tract infections notoriously relapse and recur. Inadequate courses of treatment may well be a causation of high recurrence rates. Generally, the more severe the infection the longer the course of treatment. Potential toxicity of the agent reduces the treatment time.

At some time in the patient's course of treatment, attention should be directed to finding causative factors of the infection. These factors include primarily obstruction, foreign bodies including calculi, and vesicoureteral reflux. The extent of the evaluation varies with the type of infection but may include excretory urography, cystography, residual urine determination, and endoscopy of the lower urinary tract. With recurrent infection the yield of positive findings on evaluation are greatly increased.

Systematic post-treatment follow-up provides the best method of coping with recurrent or relapsing urinary tract infection. It should be considered part of the correct treatment of acute urinary tract infection. The physician who merely has his patients return for follow-up when they are symptomatic will miss numerous infections. Often recurrent bacteriuria is asymptomatic. The follow-up again should be individualized as to intervals between visits and the length of time of follow-up. Examination of the urine constitutes the minimum follow-up evaluation.

The most common acute genitourinary infections include: acute pyelonephritis, acute cystitis, acute prostatitis, acute urethritis, acute epididymo-orchitis, and gram negative sepsis.

Acute Pyelonephritis

Classic acute pyelonephritis is not a difficult diagnosis to make, but the symptomatology is not always textbook in nature. Classic symptoms include costovertebral angle pain, fever, and lower urinary tract complaints. The pain may not always be in the costovertebral angle but may be more of an abdominal pain. Nausea

and vomiting may be prominent symptoms. In small children the diagnosis may be very difficult. Pain in the costovertebral angle elicited by percussion is a very subjective and variable finding. The errors in diagnosis made on this point alone are probably countless. Pain on percussion is reported by many physicians when the patient is describing and has predominantly lower tract complaints. Pain elicited is dependent often on the vigor with which the patient is percussed and the patient's threshold of pain. A sharp percussion of one's own flank should rapidly demonstrate this point.

Examination of the urine may show bacteria, white blood cells, red blood cells, and white blood cell casts. The presence of white blood cell casts is usually pathognomonic of acute pyelonephritis. An excretory urogram may or may not be made initially depending on the patient's symptoms. Certainly a plain film of the abdomen (KUB) should be made to rule out the possibility of an obvious obstructing calculus. A urine culture should be started. If the temperature is high (103°), blood cultures should be obtained.

Treatment is started immediately using a broad spectrum bactericidal antimicrobial agent with good blood, tissue, and urine levels. Usually the most effective agent with the least toxicity should be chosen. The initial dosage is usually parenteral. If the patient has not had a recent urinary tract infection or does not have a calculus or history of urinary tract instrumentation, it may be assumed that the organism is *E. coli*. If the patient has had a recent infection or instrumentation or has a calculus, there is the possibility that *Proteus* or *Pseudomonas* is the organism to be dealt with. Treatment should be continued for a minimum of fourteen days and may be continued for three weeks. The antimicrobial dosage may be lessened gradually during the course but should remain at therapeutic levels. A maintenance antimicrobial agent may be continued for several weeks thereafter to guard against recurrence and probably should be continued until a full evaluation for causative factors can be completed. An example of a maintenance antimicrobial agent is nitrofurantoin.

Acute pyelonephritis should be evaluated with the first episode of infection. The evaluation may be initiated after six weeks and should in-

clude a residual urine determination, cystography to rule out the presence of bladder abnormalities and vesicoureteral reflux, and excretory urography. Cystoscopy is indicated if pathology of the bladder or urethra is suggested.

A suggested systematic follow-up of the patient with acute pyelonephritis might include having the patient return the week after completion of the therapeutic course of the antimicrobial agent, at six weeks, three months, six months, and a year. This provides approximately two years of follow-up. The urine should be examined at each visit and probably cultured. At the end of the second year consideration should be given to repeating the excretory urogram to see if morphologic changes have resulted from the pyelonephritis.

From this discussion it can be seen that acute pyelonephritis should be treated vigorously and then followed stringently. If misdiagnosed, the patient with simple cystitis is subjected to much needless treatment and inconvenience.

Acute Cystitis

The patient with acute cystitis usually presents with symptoms of dysuria, frequency, urgency, suprapubic discomfort, and occasionally gross hematuria. The symptoms are primarily referable to the lower tract, although at times low pelvic back pain will occur. Fever should suggest concomitant pyelonephritis. The patient is usually female. One should rely primarily on the clean catch urinalysis for the diagnosis. Catheterization should be avoided in the patient with intense symptoms referable to the urethra and bladder. A culture is usually not necessary unless the patient has been recently instrumented or the infection has recurred shortly after previous antimicrobial treatment.

For acute uncomplicated cystitis, a sulfonamide is probably the drug of choice although other agents would be equally effective. Symptoms usually respond in twenty-four to forty-eight hours. Treatment should be continued for ten to fourteen days.

Analgesics containing dyes and atropine derivations are available and have varying results in relieving the uncomfortable symptoms of cystitis. In adult women initial episodes of cystitis need not be evaluated further, but with closely-spaced recurrences this should be done. In children and

men initial episodes of bona fide cystitis deserve urologic evaluation.

Follow-up is needed. A suggested follow-up would be at one week following cessation of treatment, and then at six weeks and three months. Recurrent infections are common in females. Culture of the vaginal introitus may yield pure cultures of the causative organism and attention to clearing the vulva and the perineum of the organism by providoneiodine (Betadine) douching and washing may stop the recurrences.

Acute Prostatitis

Acute prostatitis is usually seen in men in the sexually active age range. The onset of symptoms may be insidious but is often sudden. They include dysuria; frequency; urgency; suprapubic, perineal, or rectal discomfort; and often hematuria. It is common for the symptoms to be more pronounced with the initiation and termination of voiding. Fever is not uncommon with acute prostatitis. Bacteria may or may not be seen on urinalysis. Examination of the urine should include examination of the first voided urine, in addition to the midstream urine. Digital examination of the prostate is quite helpful for diagnosis. After introducing the finger into the ampulla, the prostate is lightly touched. With acute prostatitis the patient's response is definitely affirmative when asked about severe pain with digital palpation. The prostate should not be massaged for examination of the prostatic secretion. Only enough palpation should be done to confirm the diagnosis and to rule out the fluctuance of a prostatic abscess.

Treatment is initiated with a broad spectrum antimicrobial agent with good tissue and urine levels. Although there is controversy regarding which antimicrobial agents actually enter the prostate gland, clinically the more acute the disease the more effective the antimicrobial treatment. The agent may be started parenterally. Treatment should continue for fourteen days. Concomitant hematuria should be evaluated, as should all hematuria, with excretory urography and cystoscopy. Recurrence of acute episodes of prostatitis does not often occur, but exacerbation of similar but lesser symptoms are common. This is often referred to as chronic prostatitis.

Acute Urethritis

For the purpose of this discussion only the acute urethritis of males will be covered. Sym-

toms include urethral burning, itching, and frequently a discharge from the urethral meatus. The infecting organism may or may not be of venereal origin. The presence of the urethral discharge is disconcerting to the patient as he usually associates this finding only with a gonorrheal urethritis.

If a discharge is present, a gram stain should be made to identify possible gram negative intracellular diplococci. A wet smear should be examined microscopically for trichomonads. The discharge should be cultured for predominant organisms but also should be cultured on Thayer-Martin medium for *Neisseria gonococci*. The prostate gland should be examined because symptoms of posterior urethritis and prostatitis blend together.

If trichomonas is identified, the drug of choice is Flagyl. Nonspecific urethritis responds to almost any of the broad spectrum antimicrobial agents. Treatment should be maintained for ten days to two weeks. Gonococcal urethritis is treated with 4.8 million units of intramuscular aqueous procaine penicillin. One gram of probenecid may be given thirty minutes prior to treatment. Other agents are effective against gonorrhea but may mask syphilis.

Acute Epididymo-Orchitis

This is primarily a disease of men but may be found occasionally in prepubertal boys. Symptoms are insidious in onset and consist of painful enlargement of the epididymis and testicle. Fever is usually associated. There may be some associated symptoms of dysuria and frequency. Tenderness and enlargement may be quite localized initially and be found only in the globus major or minor of the epididymis. As the disease rapidly progresses, the vas becomes thickened and the epididymis becomes greatly enlarged. The testicle then becomes intimately involved in the inflamed mass forming a single tender mass. Hydrocele formation may occur and fluctuant areas of abscess formation may be present. It is important to differentiate torsion of the testicle or of the appendix testis initially. Torsion of the testicle is primarily seen in boys and teenagers. However, in boys symptoms of torsion and epididymitis are so similar, it is best to surgically explore the testicles of all boys with an acute onset of scrotal enlargement and tenderness.

A urine examination should be done, and the urine should be cultured. Treatment consists of starting a broad spectrum antimicrobial agent which provides for good tissue and urine levels. The first dose may be administered parenterally. The patient should be kept at bed rest with scrotal elevation until the testicle can be examined without eliciting pain. Scrotal elevation can be accomplished by folding a towel between the thighs or by stretching wide strips of tape or a towel across the thighs to form a shelf (Bellvue Bridge) for the testicles. This position allows for dependent drainage of this pedicled organ. Pain may be relieved by infiltrating the spermatic cord just at the upper limit of the scrotum with 2-5 cc. of 1% xylocaine. Incision and drainage is not necessary unless a fluctuant area is palpable or the temperature curve suggests the presence of an abscess. If infected urine is noted, further urologic evaluation is indicated and should include a residual urine determination, excretory urography, and cystoscopy.

If after two weeks of treatment the testicle cannot be clearly discerned from the epididymis by palpation, consideration should be given to the possibility of a malignancy. An extended course of antimicrobial therapy may be indicated, but it is important not to continue to temporize if the scrotal contents continue to be indurated and the testicle is not clearly discernable. If tumor is suspected, no biopsy should be done through the scrotal wall. This happens again and again with needless loss of life and added surgical procedures. If an indurated area is noted in the scrotal contents, the correct procedure is to make an inguinal incision. With mobilization and atraumatic cross-clamping of the spermatic cord, the testicle may then be delivered from the scrotum into the wound and examined. If the diagnosis still cannot be made, either orchiectomy or careful biopsy and frozen section examination is carried out. A large number of men with testicular tumors are followed by physicians prior to diagnosis and the most frequent diagnosis they carry is epididymo-orchitis.

Gram Negative Sepsis

This is the most severe of the acute genitourinary infections and may occur with any of the aforementioned entities. The most common instance of gram negative sepsis, which may often

go unrecognized, occurs with urethral instrumentation in the presence of a pre-existing urinary tract infection. Shock is the most severe sequelae of gram negative sepsis. The hallmark of diagnosis is fever which becomes rapidly elevated. Early recognition of the problem is important. Attention should be given to starting parenteral broad spectrum bactericidal coverage immediately. If the organism is not known, both gram negative and gram positive organisms are suspect. A suggested antimicrobial combination would be Gentamycin and Clindamycin. Attention should be given to blood volume maintenance. It is often of value to place an intravenous catheter for central venous pressure determination. Massive doses of steroids may be of value in improving the microcirculation.

Prevention is all important. Instrumentation of the urinary tract, particularly the male urethra, should be undertaken with care in the presence of bacteriuria. Strictures of the urethra should not be dilated until after the patient achieves a blood level of an agent to which the infecting organism is sensitive.

GENERAL REFERENCES

1. Kagan, B. M., Fannin, S. L., Barbie, R.: Spotlight On Antimicrobial Agents — 1973. *J.A.M.A.* 226:306, 1973.
2. Wallace, J. F., and Petersdorf, R. G.: Urinary Tract Infections. *Post. Grad. Med.* 50:138, 1971.
3. Freedman, L. R.: Urinary Tract Infection, Pyelonephritis, and Other Forms of Chronic Interstitial Nephritis, in Strauss and Welt: *Diseases of the Kidney*, vol. 1, chapter 18, 1971.
4. Parker, J., and Kunin, C.: Pyelonephritis in Young Women: A 10- to 20-Year Follow-up. *J.A.M.A.* 224:585, 1973.
5. Riley, H. D.: Pyelonephritis In Children: the Long-term Problem. *Hosp. Pract.* 7:141, 1972.
6. Corriere, J. N., and Wise, M. F.: Acute Cystitis In Young Women: Diagnosis and Treatment. *Urol.* 1:453, 1973.
7. Meares, E. M.: Bacterial Prostatitis vs. "Prostatosis"; A Clinical and Bacteriological Study. *J.A.M.A.* 224: 1372, 1973.
8. McChesney, J. A., Zedd, A., King, H., Russell, C. M., Hendley, J. O.: Acute Urethritis In Male College Students. *J.A.M.A.* 226:37, 1973.
9. Mitemeyer, B. T., Lennox, K. W., Borski, A. A.: Epididymitis: A Review of 610 Cases. *J. Urol.* 95:390, 1966.
10. McLin, P. H., Fisher, R., Hinman, F., Jr.: Rapid Sensitivity Testing In the Prevention of Sepsis From Genitourinary Instrumentation. *J. Urol.* 100:787, 1968.



Strabismus for the General Practitioner

T. Dale Alford M.D., F.A.C.S., and Mary Wackerhagen, Orthoptist*

The idea that a child with a true strabismus will "outgrow" it is entirely *false*.

In this brief discussion of strabismus we shall make no attempt to include the many technical phases in diagnosis and treatment which are peculiarly limited to the ophthalmologist. The busy practitioner has a problem of his own in "keeping up" with the rapidly advancing progress of medicine more particularly suited to his practice. We shall present our remarks in a manner we hope can be more readily utilized in general practice to accurately evaluate the patient who is a "squinter" and to enable an already overburdened physician in general practice to give sound advice when consulted by the parents of a child with crossed eyes.

The movements of the eyes are controlled by twelve extraocular muscles or six muscles for each eye. The purpose of the ocular movements is to widen the scope of vision, and therefore it is only natural that a visual function, namely that of binocular vision, should exercise supreme control over the ocular movements. Binocular vision comprises two principal processes; the fusion of the two monocular sensations into a single mental impression, and the projection of the fused impression into space. In other words, binocular vision is actually seeing with the two eyes as if they were one. For normal single binocular vision in all positions of gaze the two eyes must work as a team. This is the result of perfect synchronization of twelve distinct muscles in coordination with willed ocular movements initiated in the pyramidal cells of the caudal extremity of the second and possibly the third frontal convolution of each hemisphere of the brain.

It is indeed a complicated set of controls that make our eyes move in the same direction at the same time and at the same rate of speed. As complicated as this may seem, it is absolutely essential that the eyes do work perfectly as a team or else the individual will see one picture with the right eye and another visual impression with the left eye. The result is NOT single binocular vision, but diplopia (double vision). There are movements of the eyes other than up and down or right and left. They may and do move in

opposite directions in the execution of normal visual functions. For example, when we look with one eye into infinity we look along a straight line. When we look into infinity or at a fixed point beyond 20 feet, theoretically we look along two parallel lines. If we change our gaze from the distant point to a point one foot from our eyes, each visual line must cross at that point. The lines of vision cross at the point at one foot, and the eyes have turned in, or converged. This is the act of "convergence." If we once again change our position of gaze from the object at one foot to an airplane in the sky, the visual line of each eye must rotate outward to fixate the airplane, and the eyes have diverged. Hence, we have actually demonstrated the difference between convergence and divergence. There are higher centers in the brain to control ocular movements in the same direction, and separate nuclei to control convergence.

Our eyes must do more than move together in a directional pattern. They must *see*, and they must move together and see the same thing at the same time. Let us suppose our patient is a child looking at his dog. He perceives one image of the dog with the right eye and another image of the dog with the left eye. Two separate views of the dog are conveyed to the brain along a normal visual apparatus, and the process of fusing the two separate images into one mental picture of the dog is known as "fusion."

If the child's brain could not fuse the two pictures into one image, double vision would be present. Fusion is the cerebral superimposition of these images to form one complete mental picture. This fusion is developed *after birth* of the child. Just as the movements of the baby are not coordinated at birth, neither can he coordinate his eyes, a fact which may be distressing to young and inexperienced mothers. Just as the child learns to move his arms and legs he learns to use his eyes, to focus, and to fuse. He should fuse fairly well by the age of one year. Without fusion the eyes are not coordinated, therefore the importance of determining the presence of single binocular vision, or fusion, is evident. If the child is having double vision, the presence of strabismus has been established, but its degree

*5700 West Markham, Little Rock, Arkansas 72205.

remains to be determined and evaluated by the ophthalmologist and the orthoptist. Fusion plays another important role in the act of seeing. The right eye never sees the object from the same angle as the left, just as pictures of the same object taken with cameras side by side would reveal a slight difference in the angle of perception. This slight difference together with shades of color, shadows, light and dark, enable us to have "depth perception."

The idea of perceiving a clear distinct image with each eye and fusing these into one brings us to the next logical consideration, refractive errors. Far-sightedness (hyperopia) and near-sightedness (myopia) are conditions of anatomy. The far-sighted eye is round and small; the near-sighted eye is oblong and large. In the oblong-shaped eye, the parallel rays of light entering the eye cross before they reach the retina, the image is blurred, and the patient is near-sighted. In the smaller, round-shaped eyeball the parallel rays of light theoretically cross behind the retina, and hence, the patient is far-sighted. As he grows so will his eyes and he may normally be expected to outgrow his far-sightedness. If this growth is too rapid and proceeds to the extreme, his eyes pass from far-sightedness to a period of normalcy and then into near-sightedness as growth continues. (The cause of this growth is not known. Its inheritable tendency has been definitely established.) As a rule of thumb, we can state that far-sightedness gets better and near-sightedness becomes worse as the child grows.

If a child is far-sighted or near-sighted, how is he able to bring any object into clear focus? This is accomplished by the physiological act called "accommodation." The eye accommodates itself for objects at varying distances by the action of the ciliary muscles on the normal lens of the eye. The ciliary muscle relaxes when looking at distance and contracts when looking at near.

To shift the gaze of the eyes from distance to near, two processes must be accomplished. First, the eyes must accommodate for a new distance, and secondly they must turn in toward the near object, or converge. When the eyes converge, they must accommodate.

To look at an object in the distance, the normal eye does NOT have to accommodate. This is *not* so with the far-sighted individual. The hyperopic eye does not perceive a clear image

unless it accommodates. A far-sighted person can perceive a clear image at a distance, but in so doing he must accommodate. The close relationship of accommodation and convergence has been mentioned in that one does not usually exist without the other. When a child exerts a higher degree of effort to accommodate (or focus) the distant point, he has proportionately increased the related stimulus to converge as well. However, if the child converges while looking in the distance, the two visual lines are no longer parallel. Two separate images are perceived; fusion is not present; there is diplopia. The problem is even more pronounced when the child exerts an added effort to perceive the *clear* image of an object at near. *Normal* eyes have to accommodate and converge when looking at close objects. When this extremely far-sighted child looks at close objects, an even greater degree of accommodation is required. Too much convergence is present and there is a convergent strabismus. If this child's problem is solely one of hyperopia, proper lenses can correct the far-sightedness, and the accommodative strabismus will be eliminated. To complicate this theoretical case let us suppose the convergent strabismus is only partially due to hyperopia and glasses will correct only part of the crossing. It corrects the portion due to far-sightedness. The remaining over-convergence will then be mechanical. This can be measured by screening for distance and near with and without the correcting glasses. This combination of the accommodative-mechanical squint requires lenses, orthoptics, and surgery to correct.

When the term "strabismus" is used, we normally think of crossed eyes. There can also be a turning outward or upward of an eye. It is of particular importance for an infant with an eye which is turning OUT to be checked by an ophthalmologist promptly. It is *unusual* for a baby's eyes to turn outward, and may be a sign of such problems as retinoblastoma or other abnormalities to which the strabismus is secondary.

There are three stages which should receive special consideration in this discussion. One, eyes crossed *at birth*. Slightly more than 25% of all children with strabismus were crossed at birth. Is strabismus inherited? Obviously, not all types. In patients with esotropia (turning in), 47% have strabismus in the family. A careful history will

reveal some family member with eyes that were not straight. *Birth injuries* not infrequently result in strabismus. Due to the pressure on the head it has been estimated that four out of ten normal deliveries result in babies having multiple minute bleeding points in the brain. As high as 40% of us had such bleeding points and no damage was apparent. Only 5% of all children in this country are strabismic. The difference between 40% and 5% is obvious. It occasionally happens that an experienced obstetrician is forced to apply forceps improperly in long labors. In such cases the eye muscles can be easily damaged. A frequent occurrence is the paralysis of the sixth, or abducens nerve. This results in an inability of the affected eye to abduct or move outward in the field of the lateral rectus muscle.

Our second major consideration is of eyes crossing at 2½ to 4 years of age. This is a common age for esotropia to develop or be acquired. Convergence and accommodation should assume more normal proportions at this age. Visual acuity has also been developed so that details are discerned. Children become interested in books, and coloring. Indicated treatment is a combination of corrective lenses, and orthoptics when necessary. If the squint is due to an injury then surgery is usually required.

The third major group is that of the child whose eyes cross following an illness. This is often seen after measles, mumps, influenza, and other childhood diseases. There is a general opinion among laymen that these diseases can *cause* "crossed eyes." This is only a half-truth. The real cause of such manifestations is an innate weakness of the fusion mechanism, which breaks down with the illness. It is noteworthy that most of these cases occur in far-sighted children. The tendency was present prior to the weakening disease. Not infrequently one hears of a parent that alleges the crossed eyes are due to a bump on the head. It is our opinion that this is purely coincidental. A painstaking and exhaustive family history would probably reveal the true cause of the phenomenon.

Strabismus may be inherited, may be caused by hyperopia with excessive convergence, may be secondary to anatomical abnormalities, may follow disease affecting the eyes directly or the

nuclei of the brain supplying these muscles, or be secondary to an injury.

A discussion of the therapy for strabismus will not be complete without including amblyopia, loss of vision due to disuse. If fusion is disrupted, there is diplopia. This condition cannot persist for long because of the confusion and discomfort. The brain quickly adjusts itself to the disquieting circumstances by a process known as "suppression." The act of suppression is a process of the brain rejecting one image for a more comfortable visual perception. One eye falls into a state of disuse and becomes amblyopic. If an arm or leg is placed in a splint and kept there for a sufficient time, there will be an impairment of function due to the disuse, which unfortunately has been known to be permanent. To correct the disuse of a limb, it is removed from the cast for the purpose of physiotherapy. The patient strengthens the weak muscles by using them. The same is true with the amblyopic eye. Vision can *only* be restored by *using* the eye. The suppressing eye must be *forced* into use through occlusion or patching of the dominant eye. This can only be accomplished by total, *constant* occlusion of the good eye. In eyes with suppression a central blind spot is present. This must be eradicated. Successful results are more likely to be obtained if the child can be properly treated early. Results are uncertain if treated too late.

Another reason for patching is that an abnormal retinal correspondence may be developed. Abnormal retinal correspondence (ARC) is a secondary or substitute relationship between the two eyes where the two central points no longer correspond with each other. An ARC is developed to overcome diplopia. The central point of best vision, the fovea, of one eye teams up with a peripheral retinal element of the other eye. With this arrangement *normally* there would be double vision, but under this *adaptive, abnormal* condition (with strabismus), one image is seen. However, the eyes are *not* straight, they are crossed. The two foveas have two different directions instead of one common direction. It takes time to develop an ARC. Therefore, this is another reason for early proper treatment to avoid such complications.

Patching must be instituted, and orthoptic therapy given to break up the *abnormal* relation-

ship, and to establish a normal correspondence between the two eyes. If ARC has not been corrected, a cure *cannot be effected*. Orthoptics together with surgery is essential in such cases.

Orthoptics is a term originating from a Greek word meaning "straight eyes." Medically we think of orthoptics as meaning eye therapy. When we prescribe orthoptics, we do so with the intent of establishing fusion. Orthoptics can accomplish many things. It can break down abnormal retinal correspondence, develop vision, fusion, and increase fusional abilities. Unless a normal retinal relationship and good fusion are present neither surgery, glasses, or both, will "cure" strabismus. A cosmetic result may be obtained temporarily, but if amblyopia or ARC remains, the result will not be permanent. "Eye exercises" should be given with great care, for if improperly done, oftentimes they can do more harm than good, perhaps leaving a patient with permanent double vision. Orthoptics is beneficial prior to surgery and following surgery, and should be done at both times. "A lack of orthoptics can reduce successes in tropia cases by about 30%." Orthoptics and surgery must go hand in hand to ensure single binocular vision permanently.

There are two end results which may be seen after treatment of crossed eyes: cosmetic and functional. In the first, the two eyes may look straight but they are not *working* together — they do not see as one, fusion is not appreciated. In the second type, the eyes not only look straight, but they work together guaranteeing they will remain straight. Fusion is present, and a *functional*, as well as a cosmetic result is achieved. This is the reason for so much emphasis on *fusion*. If fusion is not developed, the eyes may re-cross, or if they do not cross, they may turn out in exotropia. Cosmetically they will be more unsightly than previously, as this outward turning will increase with growth of the child.

The surgery of strabismus requires a certain skill, but is not difficult. It is the good surgeon who knows the *best time* to operate. The rule of thumb can be stated that any child whose eyes are not completely straightened by glasses and/or orthoptics should have the benefit of surgery. There are a few exceptions. These have been indicated. Minor deviations should receive spe-

cial attention also, as they may be more *uncomfortable* for the patient than a large one.

The goal of surgery is two straight eyes. It is not unusual to operate both eyes although one eye only may be crossed. Will the operation affect the vision in either eye? No. The eye should not be expected to *see* any worse or better from surgery alone. The operation is performed on the external portion of the globe, recessing, resecting, or advancing the extraocular muscles. Is this type of surgery dangerous? No more than surgery requiring a general anesthetic. Another question frequently asked is: Will the eyes be perfectly straight after surgery? Nobody can *guarantee* such a result. Many factors affecting this have been indicated.

In conclusion, we will classify strabismus into three main types.

- I. *Comitant* (nonparalytic)
 - A. *Motor* anomaly predominantly
 1. Accommodative-vergence movements
 2. Fusional-vergence movements
 3. Convergence-divergence balance
 4. Mixtures of above
 - B. *Sensory* anomaly predominantly
 1. Anatomic malposition of eyes
 2. Interference with image formation
 - a. Refractive errors
 - b. Opacities, etc.
- II. *Noncomitant* (paralytic)
 - A. Muscle abnormalities
 1. Congenital
 2. Injury
 - B. Nuclei or nerve abnormalities
 1. Congenital
 2. Acquired
- III. *Supranuclear*
 - A. Conjugate deviation
 1. Paretic
 2. Spastic
 - B. Comitant (by definition)
 1. Convergence excess or insufficiency
 2. Divergence excess or insufficiency
 3. Combinations of convergence-divergence anomalies

Etiology of strabismus may be summarized as:

1. Heredity
2. Paralysis of one or more extraocular muscles

3. Refractive
4. Amblyopia
5. Neurologic abnormalities
6. Developmental abnormalities
7. Systemic disease

Stages of development of strabismus:

1. Impairment or loss of fusion
2. Diplopia
3. Confusion
4. Suppression
5. Amblyopia
6. Abnormal retinal correspondence

Summary of therapy for strabismus:

1. Correction of refractive errors
2. Elimination or prevention of amblyopia

3. Establishment of fusion and fusional amplitudes
4. Development and use of fusion in daily life
5. Surgery, when needed.

The only true cure of strabismus is a *functional* cure whenever possible, in which the patient is dismissed with single binocular vision, and therefore straight eyes.

BIBLIOGRAPHY

Alford, T. Dale, M.D., "Strabismus in General Practice," 1958.

Alford, T. Dale, M.D., Wackerhagen, Mary, "Your Child's Eyes," Little Rock, 1967, 1975.

Newell, Frank W., M.D., "Ophthalmology, Principles and Concepts," 1969, C. V. Mosby Co.



Dupuytren's Contracture

Kenneth G. Jones, M.D.*

Since the only treatment for Dupuytren's contracture of the hand is surgical excision of the involved palmar fascia, one may reasonably ask, why should this entity be considered under "Office Orthopaedics"? Even so, it is a fitting topic for consideration. The referring physician, as well as the surgeon, needs to know at what stage in development of this process surgical intervention is indicated. Not all, as a matter of fact not even most, patients with Dupuytren's contracture require surgery at the time they first seek medical advice regarding this entity and many never will.

Over the years I have observed that in a series of patients sent to me for management of this problem, most of them have been referred after the diagnosis had been determined by the referring physician. Although the diagnosis is seldom difficult for the initial examiner, he may often find it extremely difficult to determine whether or not surgical intervention is indicated at that time. It is this aspect of the problem with which we are concerned here, as truly this is everyone's office orthopaedics.

Notwithstanding extensive clinical and research investigation, Dupuytren's deformity remains an idiopathic contracture of the palmar fascia. Early cases are characterized by inflammatory nodules in the palm which remain painful, as a rule, for six months or so. Multiple nodules are often seen. The digits are usually affected in the following order of frequency of occurrence; 4, 5, 3, 2, 1. This corresponds to

the area of most extensive development of the palmar fascia and probably to the area of greatest stress to the palm. While the distal termination of the palmar fascia varies considerably from individual to individual, it is most frequently found as in Figure 1. As a rule, cadaver hands demonstrate a prolongation of the palmar fascia around the middle phalanges onto the back of the digits. The palmar fascia is less well developed on the radial side of the palm. It is for this reason that the thumb is rarely severely involved.

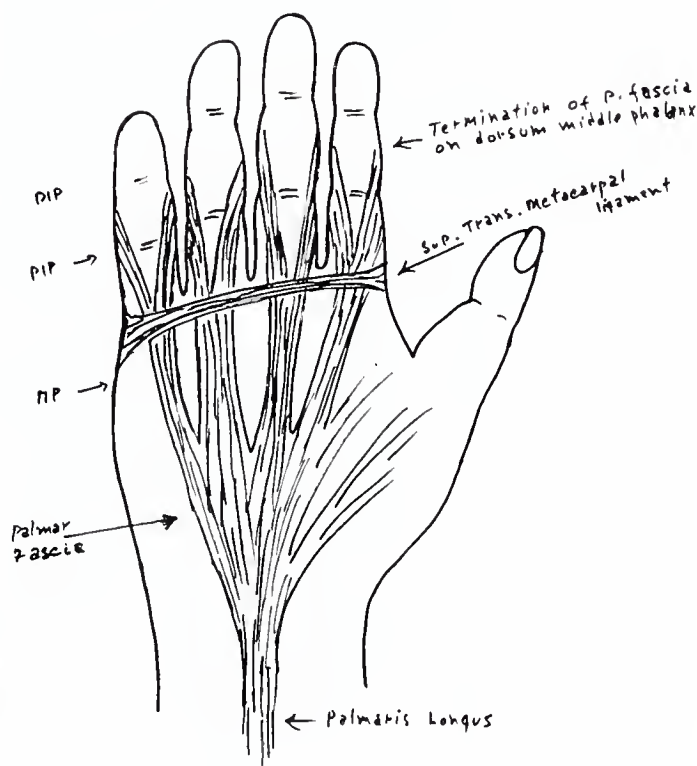


Fig 1.

*Little Rock Orthopedic Clinic, P.A., Post Office Box 5270, Little Rock, Arkansas 72205.

The key to when to and when not to operate is "the presence or absence of a fixed deformity of the proximal interphalangeal joints of the digits," most often the fourth. This, in turn, is determined by the extent of involvement of the palmar fascia which crosses volar to the axis of that joint to insert onto the dorsal aspect of the middle phalanx. In those individuals who have a well developed palmar fascia extending this far distal in the fingers and who do develop Dupuytren's disease in these areas, the flexion contraction deformity of the PIP joint encountered may be quite severe. And, as stated, this articulation is the key to timing surgical intervention.

Flexion deformities at the level of the metacarpal-phalangeal joints seen with Dupuytren's contracture in the distal palm can almost always be corrected by surgical resection of the involved palmar fascia which releases the bow stringing across these joints. Fixed flexion deformities of the MP joints are seldom seen as a complication of this disease. This is not true of the PIP joints of the fingers. These articulations are extremely prone to contraction of the joint capsule. Once shortening of the fan-like portion of the collateral ligaments and volar plates has occurred it is usually permanent. Even the most vigorous physical therapy following surgical release of the contracted fascia is seldom rewarded with recovery of lost extension of the PIP joints. When these deformities develop beyond 45 to 60 degrees, volar capsulotomies and collateral ligament releases are necessary to regain the lost motion. Since the distal interphalangeal joint is seldom affected because the palmar fascia almost always terminates before crossing that articulation and since deformities of the skin of the fingers and palm are in most instances readily correctable by multiple Z-plasties (Fig. 2) carried out during closure following resection of the fascia, it is further evident why the PIP joints are the key to planning surgical intervention in the hand affected by Dupuytren's disease.

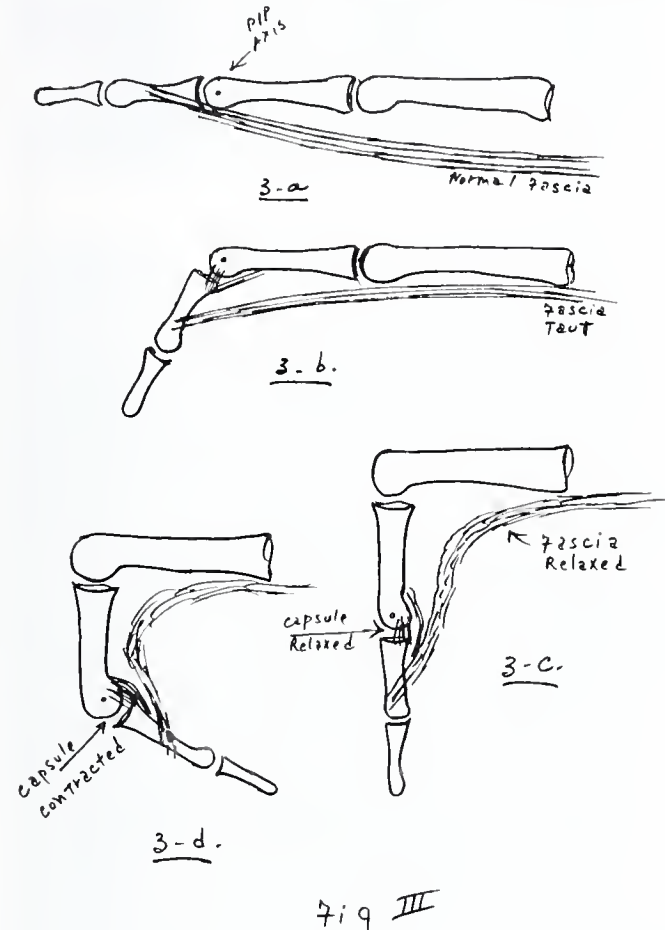
A simple test to determine the extent of secondary involvement of the capsule of the PIP joints is as illustrated in Figures 3-a, b, c, and d. On examination of the hand the surgeon will attempt to extend the most involved digit, usually the fourth (ring finger). If the deformity is mild in degree, he will be able to passively



Fig II

extend the digit in a near normal manner. (Fig. 3-a) As the deformity becomes more severe, ability to accomplish this is lost. With the metacarpal-phalangeal joint extended to the maximum degree possible (180-200) the examining physician should observe the proximal interphalangeal joint and note the degree of flexion, if any, which remains unconnectable in that articulation. If the disease has progressed to the point that some degree of flexion deformity in the PIP joint is demonstrated during this maneuver (Fig. 3-b), he should then flex the metacarpal-phalangeal joint to a 90 degree position and once again attempt to extend the PIP joint. By flexing the MP joint, he will have released tension on the contracted palmar fascia to the extent that if there is no secondary contracture of the volar capsule and collateral ligaments of the PIP joint then that articulation can be extended

to a more normal position (180 degrees) than was possible when the MP joint was fully extended. (Fig. 3-c) If the PIP joint can be fully extended



under these circumstances, he may properly conclude that surgical intervention is not necessary, at that time, and that the patient may be re-evaluated at infrequent intervals, say every six months. This is so provided the patient is made cognizant of the purpose of and the technique of executing this simple maneuver, and it is requested he return if he should observe any loss of extension in the PIP joint on self evaluation. If, however, extension of the PIP joint cannot be affected to or near the 180 degree position with the MP joint flexed to 90 degrees, the physician must then seriously consider surgical correction, at that time, in order to prevent further fixed deformity of the PIP joint and salvage maximum function of the involved hand. (Fig. 3-d)

It may be stated unequivocally that those patients seen very early with painful nodules in the palm do not require surgical intervention at that time.

The examiner should also be aware that Dupuytren's contracture will, in almost all instances, eventually reveal its presence in both hands and on rare occasion in the plantar fascia of the feet.



ER PHYSICIAN WANTED — FORT SMITH

- Opening for full-time ER Physician
- St. Edward Mercy Hospital, established 250 beds
- Moving to totally new facility in July 1975
- Guarantee \$53,000 per year
- Profit sharing when volume reaches break-even
- Perfect medium-size town — service area of 250,000

Contact: Steve Swift, Asst. Admin.
(501) 782-3071 (collect)
or write 1411 Rogers Ave.
Fort Smith, AR 72901

Wanted: Full-time occupational physician for permanent employment in Remington Arms Company plant in Lonoke, Arkansas. Excellent opportunity. General practice background acceptable. Excellent salary and outstanding company-paid benefit program. An equal opportunity employer — M/F. Write or call A. J. Hermandorfer, Plant Manager, Remington Arms Company, Inc., Lonoke, Arkansas 72086, (501) 676-3161 — 374-2245.



Pro-Banthine®
brand of
propantheline bromide

Indications: Pro-Banthine is effective as adjunctive therapy in the treatment of peptic ulcer. Dosage must be adjusted to the individual.

Contraindications: Glaucoma, obstructive disease of the gastrointestinal tract, obstructive uropathy, intestinal atony, toxic megacolon, hiatal hernia associated with reflux esophagitis, or unstable cardiovascular adjustment in acute hemorrhage.

Warnings: Patients with severe cardiac disease should be given this medication with caution. Fever and possibly heat stroke may occur due to anhidrosis.

Overdosage may cause a curare-like action, with loss of voluntary muscle control.

For such patients prompt and continuing artificial respiration should be applied until the drug effect has been exhausted. Diarrhea in an ileostomy patient may indicate obstruction, and this possibility should be considered before administering Pro-Banthine.

Precautions: Since varying degrees of urinary hesitancy may be evidenced by elderly males with prostatic hypertrophy, such patients should be advised to micturate at the time of taking the medication.

Overdosage should be avoided in patients severely ill with ulcerative colitis.

Adverse Reactions: Varying degrees of drying of salivary secretions may occur as well as mydriasis and blurred vision. In addition the following adverse reactions have been reported: nervousness, drowsiness, dizziness, insomnia, headache, loss of the sense of taste, nausea, vomiting, constipation, impotence and allergic dermatitis.

Dosage and Administration: The recommended daily dosage for adult oral therapy is one 15-mg. tablet with meals and two at bedtime. Subsequent adjustment to the patient's requirements and tolerance must be made.

How Supplied: Pro-Banthine is supplied as tablets of 15 and 7.5 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type vials of 30 mg.

SEARLE

Searle & Co.

San Juan, Puerto Rico 00936

Address medical inquiries to: G. D. Searle & Co.
Medical Department, Box 5110, Chicago, Ill. 60680 481

Rondomycin[®]

(methacycline HCl)

CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines.

WARNINGS: Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)

Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

Usage in newborns, infants, and children. (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

PRECAUTIONS: If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

ADVERSE REACTIONS: Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.

Skin: maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

Renal toxicity: rise in BUN, apparently dose related (See **WARNINGS**).

Hypersensitivity: urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

Blood: hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

USUAL DOSAGE: Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea. In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

Children—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

Concomitant therapy: Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

SUPPLIED: 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 6/73



WALLACE LABORATORIES
CRANBURY, NEW JERSEY 08512

Medical Personnel Needed

Dedicated Health Professionals needed to serve the Developmentally Disabled at the Arkansas Children's Colony, Conway, Ark.

Immediate openings for:

Medical Services Administrator
— House furnished — Salary Open.

Staff Physician — Salary Open.

Please contact Hurlis V. Graham,
Suite 300, Professional Bldg., No.
Little Rock, Ark. 72116. Tele-
phone: 501-371-1268.



WANTED

Internist or well qualified Generalist. Staff Physician, active Medical Service, 230-bed general hospital. Salary dependent upon qualifications. Liberal fringe benefits. Equal opportunity employer.

Contact: Chief, Medical Service, VA Hospital, Fayetteville, Arkansas 72701.

FOR SALE

Established practice and/or complete office equipment. Health forcing early retirement of physician in Southwest Arkansas. Re-decorated and refurbished office and all equipment including two fully equipped examining rooms, one fully equipped physical therapy room, autoclave, centrifuge, microscope, ultrasound, surgical tools, etc. All front office equipment and all furniture. Private office for doctor. Ideal for Family Practitioner. Contact: Headquarters Office, Arkansas Medical Society, Post Office Box 1208, Fort Smith, Arkansas 72901, phone AC 501 782-8218.



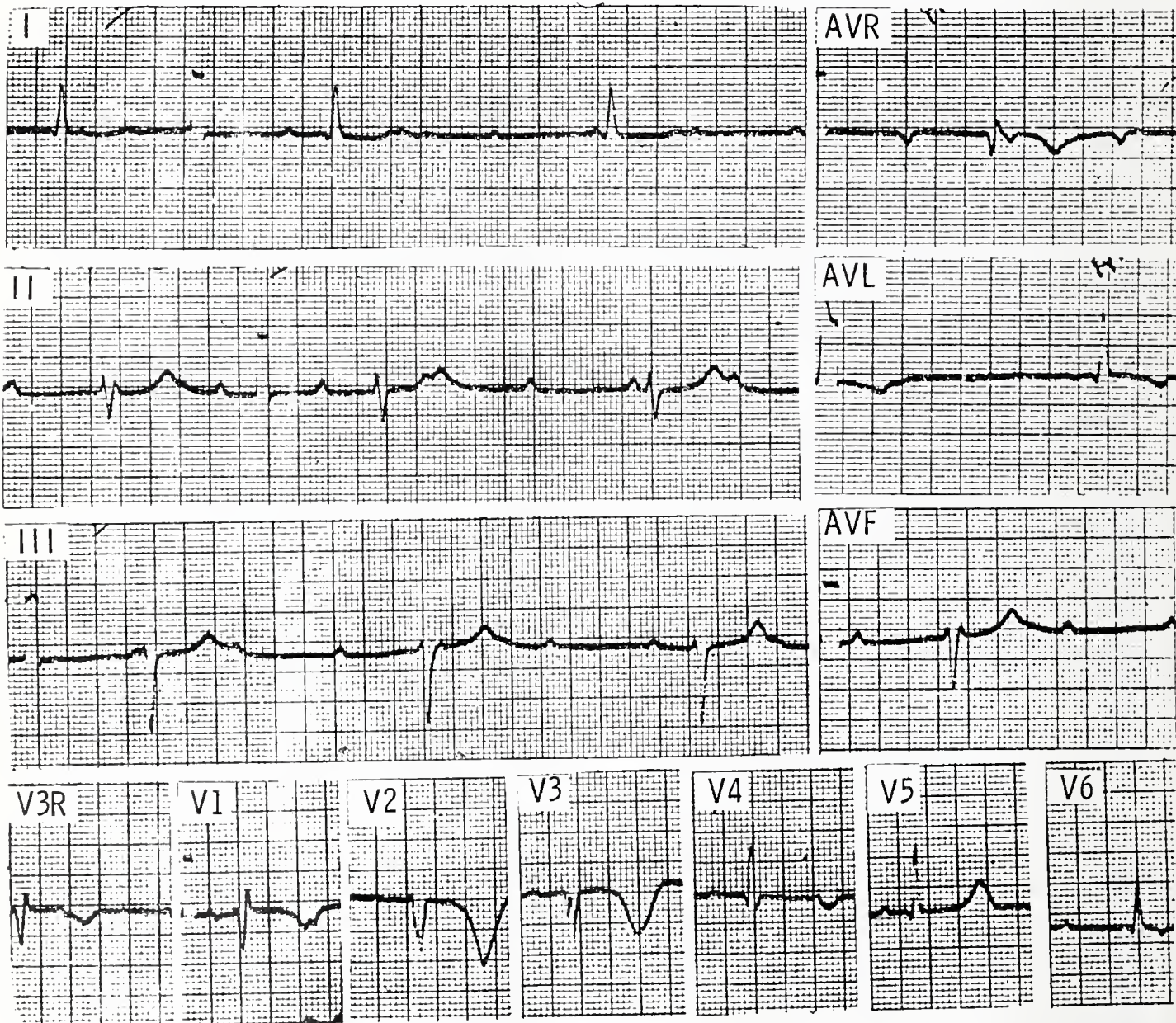
ELECTROCARDIOGRAM

OF THE MONTH

The Department of Cardiology, University of Arkansas Medical Center

(See Answer on Page 85)

The patient was an 80-year-old male with dyspnea, syncopal episodes, duration of symptoms unknown.



Robert T. Bulloch, M.D.
Professor of Medicine
Chief, Cardiology Section
University of Arkansas Medical Center
Little Rock, Arkansas 72205



PUBLIC HEALTH AT A GLANCE

The Outreach Program

Vivian Jones*, Bernice Adair** and A. S. Fitzhugh, M.D., M.P.H.***

The 1970 and 1972 Amendments to the Social Security Act provided for early and periodic screening, diagnosis and treatment of individuals through 21 years of age, who are eligible for the Medical Assistance programs administered under Title XIX of the Social Security Act. This includes persons through the age of 21 years receiving payments under Title IV-A, Aid to Families with Dependent Children, and those children in such families who are receiving Medical payments only because of lack of school attendance.

On June 13, 1972, Arkansas Social Services signed a contract with the Arkansas Department of Health to conduct a statewide program for early and periodic screening and diagnostic evaluation through the various county health departments and the local departments of Social Services.

On October 1, 1973, Arkansas Social Services signed Contract No. 24 with the Arkansas Department of Health to provide information regarding family planning in families receiving assistance under Title IV-A of the Social Security Act, Aid to Families with Dependent Children. This contract also included providing information to eligible families regarding Early Periodic Screening Diagnosis and Treatment programs within Arkansas along with transportation to and from clinics where needed.

Caseworkers, Outreach Workers, Clerical and Administrative Staff and equipment were included. Provision was made for a statewide program.

*Administrative Assistant, Outreach Program.

**Director, Outreach Program.

***Director, Division of Maternal and Child Health and Director of the Bureau of Medical Care Services, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.

THE PURPOSE OF PEDIATRIC SCREENING IS TO:

1. Identify individuals from birth through 21 years of age in AFDC families who are in need of medical or remedial care and services and to make available such services as may be included under the State Medicaid plan.
2. Assure maximum utilization of existing screening, diagnostic and treatment services provided by other public and voluntary agencies.
3. Provide immunizations as indicated.
4. Provide specialized services in local health departments as indicated for eligible children seen by the Nurse such as: X-ray, blood serology and/or chemistry, sickle cell, PKU confirmation, throat culture, vision and hearing screening, etc.
5. Assure that those eligible for Crippled Children's Services are informed of such services.
6. Provide information regarding such dental care as is necessary for the relief of pain and infection and for restoration of teeth and maintenance of dental health which is available under State Social Services Medicaid program.
7. Provide information regarding the availability of eye glasses, hearing aids and other kinds of treatment.

November, 1973, the employment of personnel started. From November, 1973, through April, 1975, the Director, Assistant Director, 26 Caseworkers, 54 Outreach Workers and Clerks were employed.

During November, 1973, after the hiring of a Director, a plan to district the state into 17 districts was set up which later was changed to 19

districts. The districts were divided according to the AFDC and Foster Children population. At this time, a reporting and calculation system was devised. Forms have been kept at a minimum inasmuch as it was felt that the worker needed as much time as possible to spend with the patients.

In January, 1974, the first training program was conducted to orient and inform the workers of the program. The training session lasted four days, three days for outreach workers and four days for caseworkers. In this training program various resource persons were utilized. February, 1974, through April, 1974, three more orientation programs were held. April, 1974, through June, 1974, the Arkansas River Valley Council provided six three-day workshops at the Arkansas Polytechnic College at Russellville, Arkansas. In these workshops, staff members of Social Services, State Health Department and the Graduate School of Social Work of Arkansas were utilized. Two of these workshops were for caseworkers (the first and last one) and four for outreach workers.

In July, 1974, in-service training programs were started. Workers from neighboring areas were called together, their questions answered, ideas exchanged, program changes discussed, social work concepts introduced and skills reviewed. There has been more than 20 staff meetings and in-service training meetings held statewide.

The caseworkers and outreach workers job duties are varied. The caseworker trains and supervises the outreach worker in their area. The caseworkers perform as a medical social worker in Family Planning and AFDC Screening Clinics. They assist the outreach worker in making appropriate referrals to other agencies where Social Services needs have been recognized. The caseworker coordinates appointments so that the health unit will not be overloaded or time lost. The caseworker is also responsible for compiling and making all reports.

The outreach worker performs in many areas. They inform patients of the services available in the health unit. Provide transportation for those patients that need it. In the health unit the outreach worker acts as a clinic aide doing various jobs such as babysitting, taking height and measurements, urine culture, temperature, routing the patients, etc.

During the last nine months, the Outreach

Program received more than 50,600 (50,666) referrals from Social Services or an average of 5,630 referrals per month of this 50,600, 11,482 were (SS-SP-390) Family Planning referrals or an average of 1,276 per month; 39,386 of these referrals were (SS-26S) for E.P.S.D.T. Screening or an average of 4,376 per month. More than 1,950 patients per month were screened.

During the past 18 months of the Outreach Program there has been several turnover in personnel. As of today there are 25 caseworkers, 48 outreach workers covering all 75 counties and some clerical personnel.

In February, 1975, the pilot program to do all follow-up except non-medical services was started in six counties over the state. The pilot program's basic procedure is the same as that of the regular E.P.S.D.T. Screening. Upon receiving a referral the caseworker, outreach worker and clerical staff will pursue the case until it is closed or treatment terminated from Medical Services. The pilot counties are Cleveland, Miller, Mississippi, Monroe, Newton and Saline.

All personnel involved with the E.P.S.D.T. Program in Arkansas have been impressed with the dramatic improvement in patients' health and its far-reaching effects. When one child was screened and found to be malnourished, his parent received nutritional counseling, assistance in purchasing groceries and with support has changed the entire family's eating habits, resulting in improved health of all family members, not just the child who was originally screened. Another child who had been in a special education class for retarded children was screened and found to be partially blind and deaf. With a hearing aid and glasses he was able to return to a regular classroom. Seeing results such as these makes everyone's efforts worthwhile.

The purpose of family planning is to promote and safeguard family health, happiness, and security by:

1. Providing families the freedom of choice to determine the number and spacing of their children.
2. Promoting the health of mothers and children, thus reducing maternal and infant mortality as well as illness.
3. Decreasing unwanted and unplanned births.
4. Decreasing the incidence of prematurity, mental retardation, and congenital defects.

5. Improving the understanding of family life and human sexuality.

Family planning is a part of public health service and of maternal care which should begin prior to conception, be continuous and based on the individual needs of the patient and her family.

All policies and procedures for the Family Planning Program and Family Planning services given in local health units are determined by the Director of the Maternal and Child Health Division of the Arkansas Department of Health under the direction of the Director of the Arkansas Department of Health.



EDITORIAL

The Mayo Clinic Reviews Lupus Erythematosus

Alfred Kahn, Jr., M.D.

Among the diseases that are currently of great interest to the medical profession is Lupus Erythematosus. The Mayo Clinic Proceedings have devoted an entire issue to this subject. (Page 579, Vol. 44, Sept., 1969)

Hargraves recounts that he was one of a group of investigators working to relate bone marrow cells to peripheral blood cells. He discovered what he described as "peculiar rather structureless globular bodies taking purple stain" both intracellularly and extracellularly in a young girl in 1943. This is the original description of the L. E. phenomenon or cell although Hargraves did not recognize it as a characteristic — and it was several years later when the L. E. cell became related to Lupus Erythematosus by the hematologists of Dr. Hargraves' group.

J. S. Beck in the same issue reviewed antinuclear antibodies. As a result of Hargraves' work, it became apparent that the L. E. test was due to a factor in plasma and serum. It was demonstrated the L. E. test had 3 components: reaction of the factor in plasma with extruded nuclei, a change in the nuclear material, and in-

gestion of the nuclear material by other cells. Beck recounted the experimental work which led to the discovery that the L. E. test was "a biologic test for recognition of circulating antibodies to DNA-histone nucleoprotein." The L. E. cell test had certain disadvantages and investigations were made to detect anti-nuclear antibodies by other means. Among the conventional immunologic tests which can be used are: antiglobulin consumption which is a difficult test, complement fixation test which is not widely used because many connective tissue disease sera are anti-complementary, precipitation reactions are used in limited fashion because they are insensitive, and techniques involving agglutination of passing coated erythrocytes or particles are too dependent on the purity of the antigen. Another method of detecting antinuclear antibodies is the immunofluorescence technique which is highly successful; of particular interest is Beck's commentary on the different nuclear staining patterns using immunofluorescent techniques; they are homogeneous due to sera containing antibodies to particulate DNA-histone

nucleoprotein, a speckled pattern due to antibodies to a saline soluble nuclear protein, and a nucleolar pattern due to an unidentified antigen.

McDuffie, Blondin and Golden reviewed "Immunologic Factors In Lupus Erythematosus Cell Formation." Their work was aimed at determining whether the extracellular hyaline appearing material seen in L. E. cell tests was produced by the same antibodies that produced the L. E. cell or if the extra-cellular material was produced by different antibodies from those which produced the L. E. cell. Their studies demonstrated the L. E. factor which produces the extracellular material and the L. E. cell is the same; the L. E. cell phenomenon requires quantitatively more factors and some complement. When smaller amounts of antibodies are present the extracellular material is not phagocytized and may be seen as extracellular material.

"Renal Histologic Findings in Systemic Lupus Erythematosus" were revised by Pollak and Pirani. They consolidated the material from a number of reviews on Lupus Erythematosus and found that renal involvement ran the following percentages in the different reviews: 64, 62, 64, 65, 70, 75, 62, 56, 46, 60, 65, 87, and 69 percents. The histologic findings in systemic lupus erythematosus vary; the kidneys may be normal; there may be minimal glomerular involvement, glomerulonephritis, and diffuse membranous glomerulonephritis. Patients who were found to have lupus glomerulonephritis had a high mortality percentage from renal failure. Patients with minimal glomerular involvement apparently had minimal renal disease later in their course. Patient with lupus glomerulonephritis had a better survival rate if treated with high dosages of adrenal steroids than if they were treated with smaller dosages. The authors state that "the incidence of nonrenal manifestations of S.L.E. is not significantly different in patient with and without renal involvement." They state that the urine sediment tends to correlate roughly with urine sediment when serum complement is low and there is a high level of serum antinuclear globulin, renal involvement in the form of lupus glomerulonephritis is likely.

Barnett has presented on "Diagnostic Aspects of Lupus Erythematosus Cells and Antinuclear Factors In Disease States." He states that a basis of considering diagnosing S.L.E. is the finding

of one or more of the following abnormalities: characteristic rash, fever, serositis, non-erosive arteritis, small vessel vasculitis, glomerulonephritis, or symptoms from the central nervous system, plus finding a positive lupus cell test and one or more antinuclear antibodies. The author feels that if the L. E. cell test is positive, the anti-nuclear antibodies test is positive, and the clinical manifestations were present, the patient is fairly certain to have S.L.E. Barnett points out that positive tests for antinuclear antibodies may be positive in chronic active hepatitis, rheumatoid arthritis, collagen disorders, etc. A negative immunofluorescence tends to rule out S.L.E. unless the patient is on adrenal corticosteroids or azathioprine or is in remission. Recognition should be given to the fact that some drugs may induce S.L.E. as procainamide, hydralazine, etc.

The epidemiologic features of lupus erythematosus in Rochester, Minnesota, were compiled by Kurland, Houser, Ferguson and Holly. They found an annual incidence rate of 2.8 per 100,000 population. The median survivorship was 8 to 9 years.

"Drug Induced Lupus Syndromes" were reviewed by Alareon-Segovia. He listed as capable of producing S.L.E. Hydralazine, Isoniazid, Dilantin, Mesantoin, Tridione, Primidone, and Procainamide. Drugs which are suspected but not proved include Penicillin, "sulfa drugs," "mycin drugs," aminosalicic acid, Griseofulvin, Phenylbutazone, Thiouracil derivatives, reserpine, methyldopa, oral contraceptives, etc. He felt that drugs which cause S.L.E. can be divided into two groups: (1) drugs that induce S.L.E. through peculiar pharmacologic properties and (2) drugs which induce allergy and this precipitate lupus. The big unanswered question is whether these drugs precipitate lupus in a susceptible predisposed individual who so to speak had a "trait of lupus" or if the reaction can be induced in patients without inherent trait.

Rothfield has outlined the treatment of S.L.E. She cautions against sun exposure, foreign proteins, and pregnancy. Drugs of value include aspirin, anti-inflammatory steroids, and anti-malarial drugs.

This symposium on Lupus Erythematosus is worthwhile reading for all physicians.

MEDICINE IN THE



THE MONTH IN WASHINGTON

March saw the American Medical Association testify a number of times before numerous Congressional committees on a number of bills, including professional liability, extension of health insurance to the unemployed, comprehensive elementary and secondary school health education, and air pollution.

The House Ways and Means Subcommittee on Health began hearings in consideration of legislation for sweeping studies of the medical professional liability problem. The measure, sponsored by Subcommittee Chairman Dan Rostenkowski (D., Ill.) authorizes a study by the Office of Technology Assessment in conjunction with the National Academy of Sciences.

Under the proposal, one study would be completed within 90 days and consider interim arrangements for solution of problems relating specifically to Medicare and liability. The second study, with a 10-month schedule, would review the entire area of professional liability compensation.

In testimony before the Subcommittee, Malcolm Todd, M.D., AMA President, urged that remedial activity be undertaken at the state level.

Dr. Todd told the Subcommittee that personal injury lawsuits are determined under the state rules of law. He noted that the U. S. Constitution requires this procedure, "and as a consequence, each state can determine its own destiny and provide a wealth of experience — favorable or unfavorable — to its neighbors. Accordingly, the AMA is cooperating with our federated state societies in actively fostering discussion of professional liability law at the state level throughout America. We recognize that each state has its unique cultural, industrial, and social composition, and, accordingly, we expect to see a diverse response to the suggestions which we advance. However, we also expect to reap a rich experience by working within the system of American Federalism."

The AMA President said the federal govern-

ment can be of assistance, but the ultimate responsibility is upon the state. "No one, least of all I suspect, within this Congress, wishes to see this situation deteriorate to such an extent that the federal government is required to intervene."

Dr. Todd urged specific language for the Professional Standards Review Organization program to avoid interpretation of the law as providing federal minimum standards of care. This would drastically increase defensive medicine, he warned.

* * * *

With respect to health insurance for the unemployed, Russell B. Roth, M.D., AMA's Immediate Past President, testified before the Rostenkowski subcommittee, that the current recession and inflation "have challenged the continued enjoyment of a way of life which we as a society so shortly ago assumed to be invulnerable."

The medical profession, Dr. Roth said, is committed to the goal of "reducing the human suffering increasingly prevalent throughout society."

The plight of the unemployed calls for fast remedial action "to devise a method under which health coverage is continued for the unemployed individual and his family and to afford such protection without disruption to the health delivery system." Dr. Roth advocated a temporary program which would, during the period of unemployment, continue the worker's insurance coverage for himself and his family. Such a program should be built upon the existing unemployment compensation system, one which affords a ready mechanism for implementation of a temporary program, according to Dr. Roth.

While the program would be funded from the general revenues of the federal government, premiums would be paid on the basis of certification of entitlement by state unemployment compensation agencies, he said.

A simple extension to the unemployed of Medicare Part A insurance coverage under the Medicare program would restrict the benefits to

hospital care and any proposal which would condition the payment for services upon a hospital admission could only be expected to increase pressure for utilization of expensive care facilities and further aggravate inflationary costs, according to Dr. Roth.

"Moreover," Dr. Roth said, "the administration of a temporary health insurance program through the enlistment of the Medicare bureaucracy would place an immediate and intolerable burden upon an already strained bureaucracy."

The AMA presented similar testimony to the Senate Health Subcommittee headed by Senator Edward Kennedy (D., Mass.) which is holding hearings on the same subject.

* * * *

The AMA has asked Congress to approve legislation to encourage comprehensive elementary and secondary school health education programs through a system of grants for teacher training, pilot and demonstration projects.

"The unfortunate fact is that most children and youths of the nation do not now have an opportunity to participate in comprehensive health education programs, since health education in many schools either is non-existent or is provided on a fragmented and inadequate basis," said Joe T. Nelson, M.D., a member of the AMA Board of Trustees.

Dr. Nelson told the House Education and Labor Committee The Comprehensive School Health Education Act can help build into the primary and secondary education of every American child a program of health instruction that will help establish patterns of living that we know will discourage disease and enhance health."

* * * *

Research on air pollution has proved that there can be health effects from long-term, low-level exposure, the AMA has told Congress. Episodes affecting large populations occur. Persons at high risk suffer more during periods of high pollution, and children may carry effects into adult life, William Barclay, M.D., AMA Deputy Executive Vice President, testified.

Dr. Barclay told the House Health Subcommittee that the AMA House of Delegates has endorsed the present levels and time schedules promulgated by the Clean Air Act—1970, and encourages Congress to preserve present levels

and time schedules as necessary public health measures.

* * * *

Elsewhere on the Hill the House Health Subcommittee has approved a health manpower bill authorizing \$1.7 billion over three years to support medical and other health profession education.

Under the proposal similar to the House-passed bill last year, medical schools would receive capitation support of \$2,100 for each student for 1976 and 1977, with support decreasing to \$2,000 per student in 1978. The bill provides a simple extension of present health manpower authority for this year.

Medical schools would be required to either increase their enrollment or provide for remote site training for at least 50 percent of their students in their last two years of medical school education. Medical students would be required to pay back to the U. S. Treasury, capitation amounts paid to schools on their behalf, but would be given capitation payback forgiveness, on an equal year-for-year basis, for time spent in the National Health Service Corps or service in private practice in medically underserved areas.

Approved medical residencies could not exceed 155 percent of the previous year's graduating class starting in 1978 as a restriction on foreign medical graduates. In 1979 and 1980, limitation would decrease to 140 percent and 125 percent. The Coordinating Council on Medical Education could administer the residency limitation, but if it does not agree to accept such administration, the government would do so.

Designated as primary care specialties would be General and Internal Medicine, Pediatric Medicine, Family Medicine, and Obstetrics and Gynecology.

Senator Edward Kennedy (D., Mass.) has introduced four bills dealing with health manpower, including his sweeping plan of last year calling for mandatory service and licensing and re-licensing. This was rejected in the last Congress by the Senate in favor of Senator J. Glenn Beall's (R., Md.) more limited plan. House and Senate could not reach agreement on the legislation last year.

Kennedy's health subcommittee will hold hearings on the four bills in a month or so.

* * * *

Despite President Ford's flat declaration that he would not introduce a national health insurance (NHI) proposal in the first session of the 94th Congress and would veto any such proposal, there is still talk of NHI this year by the Democratic leadership in both House and Senate.

During Dr. Russell Roth's testimony before Representative Dan Rostenkowski's Ways and Means Health Subcommittee on health insurance for the unemployed, the Chicago Democrat said: "Whatever program (unemployed health insurance) may be enacted by Congress, we can expect that it will last until national health insurance goes into effect. The bills which have been introduced so far would phase out in a year or so. But as practical people, we know that any program we adopt will not be allowed to lapse until a permanent solution under national health insurance is in place. If we start a program with unemployment at nine percent, we will not be able to phase it out should unemployment levels drop to four percent — a figure we have not had in a long time. A program benefiting millions of people could hardly be arbitrarily cut off."

When his Subcommittee completes its work on the emergency problem, it will consider national health insurance. "The fact that we must do something about the immediate problem illustrates clearly the need to fashion a sound, workable plan of national health insurance for the long run, beginning next month, this Subcommittee will be working long hours to meet that goal," Rostenkowski said.

* * * *

HEW Secretary Casper W. Weinberger has announced that the effective date for implementation of the utilization review regulations in hospitals and other health care facilities participating in the Medicare and Medicaid programs has been changed from February 1, 1975, to July 1, 1975.

"A number of questions about requirements and interpretation of the utilization review regulations have been raised since their publication, and some small rural hospitals have expressed concern about their ability to conform to these regulations," the Secretary said. "We have decided to move the effective date of the regulations so as to allow all providers to come into full compliance and to avoid the loss of eligibil-

ity to participate in the Medicare and Medicaid programs before July 1," he added. Secretary Weinberger said the Department would also use the time to work out special problems that may be faced in small rural hospitals.

Facilities with small medical staffs, especially those in rural areas, may have difficulty organizing the in-house review committees to operate the review system required by the regulations, the Secretary said. "For these facilities, several alternative means of complying with the law are provided in the regulations. State survey agencies and Departmental personnel will be available to work with the small facilities on these alternatives so that they can develop review systems that comply with the regulations."

* * * *

Health care spending in the U. S. climbed over \$100 billion for the first time in fiscal 1974, which ended last July 1. Public spending increased twice as fast as private spending.

A study, *National Health Expenditures*, published in a recent edition of the Social Security Bulletin, noted that the \$104.2 billion health care bill represented a 10.6 percent increase over the \$94.2 billion spent in fiscal 1973.

Public spending amounted to \$41.3 billion, or 39.6 percent of the 1974 total, an increase of 15.3 percent, or \$5.5 billion. Private spending — mainly private insurance and out-of-pocket payments — accounted for \$62.9 billion, or 60.4 percent of the total health care expenditures for 1974. This was up 7.7 per cent, or \$4.5 billion, over 1973.

Despite the dollar increases, health spending remained at the 1973 proportion of gross national product — 7.7 percent.

Health spending averaged \$485 per person.

Hospital care was the largest expenditure category, amounting to \$40.9 billion, or 39 percent of the total. Physicians' services accounted for \$19 billion, or 18 percent.

Expenditures for nursing home care reached an estimated \$7.5 billion.

Of all personal health care spending in 1974, the government accounted for 38 percent; private health insurance, 26 percent; and philanthropic organizations, 1 percent, out-of-pocket spending accounted for the remaining 35 percent. Increases in Medicare and Medicaid expenditures

accounted for most of the increase in the public share of health care expenditures.

* * * *

The government has abandoned a long fight to classify high potency vitamins as drugs, bowing to opponents of vitamin legislation in Congress. Vitamin products will be available over-the-counter in any strength less than toxic, according to Food and Drug Administration officials. The Agency had hoped to require drug classification for vitamins exceeding 150 percent of the recommended daily allowance. This and other proposed restrictions on vitamins had prompted a storm of protest to Congress from health food users and makers. The Senate last year voted 81 to 10 to prevent the FDA move. Court decisions had generally favored the FDA's right to impose restrictions on vitamin preparations, but the Agency recently decided to drop the hot potato.

* * * *

American Blood Commission Established

Forty-six organizations concerned with achieving a safe and adequate blood supply for the United States agreed to form an American Blood Commission, a collaboration that was hailed by its president-elect, John J. Corson, as a "notable accomplishment in the organization of the country's health resources."

The Commission was established officially at the close of the two-day inaugural convention held in Washington, D. C., in which delegates met to develop an operating entity by which the goals of the National Blood Policy for the United States could be achieved.

The Commission will be concerned with leading the way in which non-governmental agencies will collaborate in achieving National Blood Policy goals. It will strive to eliminate the duplication of blood donor recruitment; to improve the performance of blood banks throughout the country; to minimize blood wastage and particularly to expand the voluntary donation of blood and thus to increase the safety of patients requiring blood.

These aims, highlighted in the keynote address by Theodore Cooper, M.D., Acting Assistant Secretary for Health, Education and Welfare, given to the 200 delegates on the convention's first day, coincide with the goals of improved supply, quality, accessibility and efficiency stated in the National Blood Policy announced by Casper W.

Weinberger, Secretary of HEW in July, 1973.

According to president-elect Corson, the adoption of the charter and bylaws for the Commission and the election of the board now enable the ABC "to develop recommendations on subjects such as volunteer donor recruitment, public education, cost evaluation and controls, regional program development, data and statistical analysis, plasma production, fractionation and research."

Mr. Corson had served as the chairman of the Ad Hoc Committee to Establish the American Blood Commission. Under his leadership the Ad Hoc Committee composed of the following organizations: American Association of Blood Banks, AFL-CIO, American Heart Association, American Hospital Association, American Medical Association, American National Red Cross, American Society of Clinical Pathologists, Blue Cross Association, Chamber of Commerce of the United States, College of American Pathologists, Council of Community Blood Centers, National Hemophilia Foundation, and the Pharmaceutical Manufacturers Association, developed the proposals for the Commission, that were agreed to by the convention delegates.

Elected vice presidents of the ABC were Frederic S. Laise, Senior Vice President of the American National Red Cross; and Louis M. Aledort, M.D., Medical Director of the National Hemophilia Foundation. Klaus Mayer, M.D., immediate past President of the American Association of Blood Banks was elected secretary-treasurer of the ABC.

In addition to the officers, the newly elected board of directors includes: Robert D. Langdell, M.D., American Association of Blood Banks; C. Milton Jackson, American Association of Retired Persons; William M. Markel, M.D., American Cancer Society; Edward Salzman, M.D., American College of Surgeons; Leo Perlis, AFL-CIO; William Glenn, M.D., American Heart Association; Bernard Korn, American Hospital Association; G. M. Schlee, American Legion; William D. Dolan, M.D., American Medical Association; L. Jadwin Asfeld, American National Red Cross; Rosser Mainwaring, M.D., American Society of Clinical Pathologists; John P. Smith, American Society for Medical Technology; Donald Meyers, Blue Cross Association; Sanford A. Mullen, M.D., College of American Pathologists; John



Officers of the American Blood Commission: (left to right) Frederic S. Laise, John J. Corson, Louis M. Aledort, M.D., and Klaus Mayer, M.D.

Kulstad, Communications Workers of America; Edward Zaino, M.D., Cooley's Anemia Blood and Research Foundation for Children; W. Quinn Jordan, Council of Community Blood Centers; George Mernick, International Teamsters; Andrew Brown, International United Auto Workers; Phyllis Messer, National Association of Patients on Hemodialysis and Transplantation, Inc.; Stella Shumlansky, National Council of Organizations for Children and Youth; Stuart Kleit, M.D., National Kidney Foundation; Calvin C. Sampson, M.D., National Medical Association; John G. Adams, Pharmaceutical Manufacturers Association; John T. Tierney, United Way of America, and John D. Chase, M.D., of the Veterans Administration.

* * * * *

ALDRSGATE MEDICAL CAMP

Medical Camp to run three weeks.

Aldersgate Medical Camp will have three

weeks of camping activities for handicapped children in 1975. The dates are as follows:

Orthopedic Camp — June 16-21

Medical Camp — June 23-28

Diabetic Camp — July 21-26

The purpose of the Aldersgate Medical Camp is to provide outdoor camping experience for boys and girls with medical problems or handicaps that precluded their attending a regular summer camp. Many types of medical problems can be accepted. A Medical Committee will review the applications which may be obtained by writing Aldersgate Medical Camp, 2000 Aldersgate Road, Little Rock, Arkansas 72205 (Telephone 225-1444).

Campers are accepted on a first come first served basis and some scholarships are available depending on the amount of donations. Tax deductible contributions for scholarships may be made directly to the camp at the above address.

Aldersgate Medical Camp is sponsored by Ar-

kansas pediatricians and has been endorsed by the Arkansas Medical Society.

ENCORE — Post Mastectomy Rehabilitation

A post mastectomy exercise and rehabilitation program, with no membership or class fee, is now operational at the Little Rock Young Women's Christian Association. The program is called "ENCORE."

The pilot program, for patients at least three weeks post-operative and carrying their doctors' written permission, is one of thirty now operational at Y.W.C.A.'s in the country. The group

meets once a week for one and one-half hours and participates in both land and pool exercises.

The class provides an emotional lift and encouragement through increased arm movements and shared efforts. All exercises used in ENCORE have been studied and approved by surgical, physical therapy, family medicine and rehabilitation services personnel at the Medical Center in Princeton, New Jersey.

For additional information on ENCORE, contact: Jaclyn Asmussen, Program Director, Greater Little Rock Y.W.C.A., 112 East Fourth Street, Little Rock, Arkansas 72201, phone 376-3033.



RESOLUTIONS



Dr. James O. Porter

WHEREAS, the recent death of J. O. Porter, M.D., is noted with sincere sorrow by his colleagues, the members of the Pulaski County Medical Society; and

WHEREAS, Dr. Porter had been a highly respected member of this Society for twenty years, and was held in high esteem by his patients and by the community; and

WHEREAS, his contributions to the cause of organized medicine and to the betterment of the health of countless persons in this area for many years have been invaluable;

BE IT THEREFORE RESOLVED: THAT, this resolution be made a part of the permanent archives of this Society; and

THAT, a copy of this resolution be sent to Dr. Porter's family as an expression of heartfelt sympathy; and

THAT, a copy of this resolution be sent to the Journal of the Arkansas Medical Society for publication.

By Direction of the Memorials Committee
T. D. Brown, M.D., Chairman
Robert Watson, M.D.
Henry Hollenberg, M.D.

Dr. Francis J. Scully

BE IT RESOLVED that the Garland County Hot Springs Medical Society pay special tribute to our recently departed member, Dr. Francis J. Scully.

Dr. Scully was very active and industrious throughout his long medical career. He not only authored many medical manuscripts, but also the history of Masonry in Arkansas, the history of Hot Springs, various articles on botany, as well as papers on diverse subjects.

He was held in high regard as a learned, capable, and conscientious physician. He devoted himself to helping his patients and disseminating knowledge to others.

BE IT FURTHER RESOLVED that a copy of this resolution be forwarded to his remaining family and spread on the minutes of the Society and published in the Arkansas State Medical Journal.

Garland County Medical Society
Edgar K. Clardy, M.D., President
Thomas P. Thompson, Jr., M.D., Secretary
Gaston A. Hebert, M.D., Chairman
Resolutions Committee

ERRATUM

"Scoliosis," Page 377, Volume 71, Number 11, April 1975 issue, Journal of the Arkansas Medical Society. On line two (*Figure 3 and 7*) should have appeared under the next major heading of *POSTURAL* (the next succeeding paragraph).



PERSONAL AND NEWS ITEMS

Dr. Townsend on Malpractice Panel.

Dr. T. E. Townsend of Pine Bluff, Arkansas Medical Society president, was among three panelists speaking on malpractice insurance problems to law students at the University of Arkansas recently. Other panelists were State Insurance Commissioner Ark Monroe, III, and Little Rock attorney Sidney S. McMath.

Dr. Wren is Speaker

Dr. Herbert Wren of Texarkana recently spoke to members of the Noon Rotary Club of Texarkana on the medical history of the area.

Four Doctors' Bags Stolen

Four Jonesboro physicians were the victims of a thief who stole their medical bags from their cars. The bags, containing drugs and prescription forms, belonged to Drs. Durwood Wisdom, Bascom P. Raney, W. F. Shepherd, and Grover Poole.

Boy Scouts Select Dr. Biondo

Dr. Raymond Biondo of North Little Rock has been selected to become a member of the Southwest Regional Medical Exploring Committee of the Boy Scouts of America. The committee is composed of select members of the major health

professions in Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. The committee's function is to develop ways and means of interesting young people in health careers.

Dr. Bost Honored by Organization

Dr. Roger Bost of Little Rock was honored at a meeting recently by the Arkansas Association for Retarded Citizens for his "outstanding accomplishments on behalf of the mentally retarded."

Dr. Saltzman Elected Officer

Dr. Ben N. Saltzman of Little Rock was recently elected vice president of the Arkansas Association for Retarded Children.

Physician Locates

Dr. Robert Prosser, a native of Pocahontas, Arkansas, has located his medical practice in McGehee with the McGehee Family Clinic.

Dr. Smith Encouraging New Doctors

Dr. Robert Smith of Pine Bluff spoke to a group of eleven visiting black doctors in Forrest City. The visit to locations in East Arkansas was designed to show the doctors the need and opportunity for medical practice in the area.



OBITUARY

Dr. Thomas Nathaniel Black

Dr. Thomas N. Black of Hot Springs died April 4, 1975, at the age of eighty-four. He was a 1918 graduate of the Tulane University School of Medicine, New Orleans, Louisiana. Dr. Black finished at the top of his class at Tulane and was elected to membership in Alpha Omega Alpha.

He was a member of the Garland County Medical Society, a member of the Fifty Year Club of the Arkansas Medical Society, and a member of the American Medical Association.

Dr. Black is survived by his wife and daughters.

* * * *

Dr. Carroll Franklin Shukers, II

Dr. Carroll F. Shukers, II, of DeQueen, died April 26, 1975, in a one car automobile accident near Glenwood, Arkansas. He was born December 15, 1927, in Baltimore, Maryland.

Dr. Shukers was a 1958 graduate of the University of Arkansas School of Medicine. He was a member of the Sevier County Medical Society, Arkansas Medical Society, and the American Medical Association. A staff member of the De-

Queen General Hospital, he was also active in community activities and was a member of the Eastern Star, a Mason, and a Shriner.

Dr. Shukers is survived by his wife, Joyce, two sons, Doug of DeQueen, and Kevin of Little Rock, and a daughter, Mrs. Jackie Canada of Little Rock.

* * * *

Dr. Sloan M. Sanford

Dr. Sloan M. Sanford of Searcy died April 4, 1975, at the age of seventy-six. He was born August 7, 1899. Dr. Sanford was a 1925 graduate of Vanderbilt University School of Medicine, Nashville, Tennessee.

Dr. Sanford practiced Ophthalmology from 1929 until 1941 in Little Rock. In 1941, he began serving in the United States Army and was at one time chief of staff, Eye, Ear, Nose and Throat Section at the Army-Navy Hospital in Hot Springs. After the war, Dr. Sanford practiced in Searcy until his retirement in 1955.

Dr. Sanford was a member of the White County Medical Society, Arkansas Medical Society, and the American Medical Association.

He is survived by his wife, one daughter, two granddaughters, and two brothers.

* * * *

Dr. James Oliver Porter, Jr.

Dr. James O. Porter, Jr., of Little Rock died April 3, 1975. He was born October 10, 1919. Dr. Porter was a 1944 graduate of the University of Arkansas School of Medicine.

He was a member of the Pulaski County Medical Society, Arkansas Medical Society, and the American Medical Association. Dr. Porter was Assistant Professor of Obstetrics and Gynecology at the University of Arkansas School of Medicine, and was also on the staff of St. Vincent Infirmary and Baptist Medical Center in Little Rock.

A Diplomate, American Board of Obstetrics and Gynecology, he was a member of the American College of Obstetrics and Gynecology, Southeastern Obstetrics and Gynecology, and the Southern Medical Association.

Dr. Porter is survived by three sons, Joseph, James, and Jon, all of Little Rock, his mother, and a sister.



**NEW
MEMBERS**

Dr. Margaret D. Beasley

The Faulkner County Medical Society has added the name of Dr. Margaret D. Beasley to its membership roll. She is a native of Pine Bluff, Arkansas.

Dr. Beasley received her B.A. degree in 1966 from the University of Arkansas. She was graduated from the University of Arkansas School of Medicine in 1970. Following an internship at Baptist Medical Center in Little Rock, Dr.

Beasley completed her Anesthesiology residency at the University of Arkansas Medical Center. She is a member of the American Society of Anesthesiology and the Arkansas Society of Anesthesiologists.

Dr. Beasley is practicing Anesthesiology at 2415 College in Conway.

Dr. Donald James Kroe

Dr. Donald J. Kroe has been accepted for membership in the Craighead-Poinsett County Medical Society. He is a native of Marshall, Arkansas.

Dr. Kroe graduated from the University of North Carolina in Chapel Hill with a B.S. degree in 1959. He was graduated from the Duke University School of Medicine, Durham, North Carolina, in 1963. Dr. Kroe completed his internship and a residency in Pathology at the Duke University Medical Center in 1966. In 1968, he completed a Pathology residency at Baptist Memorial Hospital in Memphis, Tennessee. His military obligation was completed with the

rank of Major in the United States Army Medical Corps in 1971.

Dr. Kroe has held numerous teaching appointments since completing his military obligation. He is a member of the American Society of Clinical Pathology, Southern Medical Association, and a Fellow, College of American Pathologists. He is Board Certified by the American Board of Pathology.

Dr. Kroe is practicing Anatomical and Clinical Pathology at Doctor's Pathology Service, 411 East Matthews, Jonesboro, in association with Drs. E. Leon Barnes, and Joe T. Wilson, Jr.

Dr. Charlotte T. Peirce

The Craighead-Poinsett County Medical Society has accepted for membership Dr. Charlotte T. Peirce, a native of Eau Claire, Wisconsin.

Dr. Peirce is a 1937 graduate of Bryn Mawr College, Bryn Mawr, Pennsylvania. She was graduated from Johns Hopkins University School of Medicine, Baltimore, Maryland, in 1941. She completed both her internship and residency

programs at Bellevue Hospital in New York. Following several years of private practice, Dr. Peirce completed a residency in Psychiatry in 1973 at the Central State Griffin Memorial Hospital in Norman, Oklahoma. She is a member of the American Psychiatric Association.

Dr. Peirce is currently a Public Health Service Psychiatrist at the Jackson Mental Health Center, 2929 McClellan Drive in Jonesboro.



ANSWER—Electrocardiogram of the Month

Interpretation:

Rate — Atrial — 86

Ventricular — 32

Complete heart block (A-V dissociation) antero-septal infarction. Age undetermined.



WHATEVER YOUR POLITICS



VOTE ARK-PAC

A new political party?

Hardly. The Arkansas Medical Political Action Committee is a voluntary non-profit, unincorporated group whose membership is open to all physicians, their spouses, and other interested people.

Ark-Pac encourages its members to work actively for good government through the established political party of their choice, but Ark-Pac's material resources may be concentrated for the benefit of worthy candidates from either party, thus reinforcing our efforts toward the basic objective — electing the best possible public representation.

Ark-Pac is your opportunity to join a winning team.

The time is now! Send your dues payment. Help Ark-Pac prepare for the next elections. Ark-Pac achieves bigness by transforming small individual contributions, which might otherwise go unnoticed, into a concerted political force.

Ark-Pac dues are \$25 for physicians, \$10 for the spouse, or \$99 for sustaining membership. Checks may be forwarded to Ark-Pac, Post Office Box 1208, Fort Smith, Arkansas 72901.

A copy of our report filed with the appropriate supervisory officer is available for purchase from:

**SUPERINTENDENT OF DOCUMENTS
UNITED STATES GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C. 20402**

July, 1975

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Vol. 72 No. 2

FORT SMITH, ARKANSAS

ARKANSAS MEDICAL SOCIETY
CENTENNIAL YEAR

BECOTIN®
Vitamin B Complex

BECOTIN® with VITAMIN C
Vitamin B Complex with Vitamin C

BECOTIN®-T
Vitamin B Complex with Vitamin C, Therapeutic

MI-CEBRIN®
Vitamins-Minerals

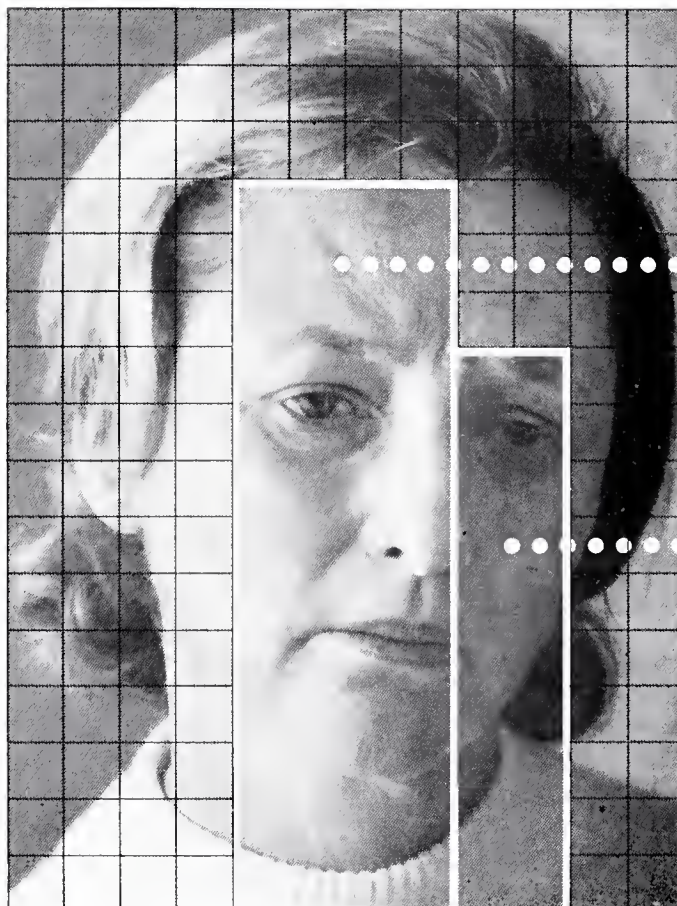
MI-CEBRIN T®
Vitamin-Minerals Therapeutic

AND A WIDE VARIETY OF OTHER PHARMACEUTICALS



DISTA PRODUCTS COMPANY
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

Both often



- Predominant psychoneurotic anxiety

- Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

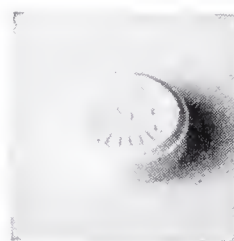
respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent

in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium[®] (diazepam) 2-mg, 5-mg, 10-mg tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

THE JOURNAL OF THE *Arkansas*

MEDICAL SOCIETY

Owned by
THE ARKANSAS MEDICAL SOCIETY
And Published Under Direction of the Council

ALFRED KAHN, JR., M.D., Editor
1300 West Sixth Street Little Rock, Arkansas

MR. PAUL C. SCHAEFER, Business Manager
214 North 12th Street Fort Smith, Arkansas

LITTLE ROCK BUSINESS OFFICE
114 E. Second St. Little Rock, Arkansas

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY

T. E. TOWNSEND, President	Pine Bluff
A. S. KOENIG, JR., President-Elect	Fort Smith
ASA A. CROW, First Vice President	Paragould
MAHLON O. MARIS, Second Vice President	Harrison
DONALD L. DUNCAN, Third Vice President	Texarkana
ELVIN SHUFFIELD, Secretary	Little Rock
KENNETH R. DUZAN, Treasurer	El Dorado
AMAIL CHUDY, Speaker,	
House of Delegates	North Little Rock
CHARLES F. WILKINS, JR., Vice Speaker,	
House of Delegates	Russellville
ALFRED KAHN, JR., Journal Editor	Little Rock
C. C. LONG, Delegate to AMA	Fort Smith
PURCELL SMITH, Delegate to AMA	Little Rock
JOE VERSER, Alternate Delegate to AMA	Harrisburg
T. E. TOWNSEND, Alternate Delegate to AMA	Pine Bluff
MR. PAUL C. SCHAEFER, Executive Vice President,	
P. O. Box 1208	Fort Smith

COUNCILORS

First District	JOHN B. KIRKLEY	Jonesboro
	*ELDON FAIRLEY	Osceola
Second District	JOHN E. BELL	Searcy
	*PAUL GRAY	Batesville
Third District	*L. J. P. BELL	Helena
	FRED C. INMAN, JR.	Carlisle
Fourth District	JOHN P. BURGE	Lake Village
	*RAYMOND IRWIN	Pine Bluff
Fifth District	*J. B. JAMESON, JR.	Camden
	JOHN H. MOORE	El Dorado
Sixth District	*C. LYNN HARRIS	Hope
	A. E. ANDREWS	Texarkana
Seventh District	*ROBERT F. McCRARY	Hot Springs
	CURTIS CLARK	Sheridan
Eighth District	WILLIAM S. ORR, JR.	Little Rock
	*W. PAYTON KOLB	Little Rock
Ninth District	*HENRY V. KIRBY	Harrison
	MORRIS M. HENRY	Fayetteville
Tenth District	KEMAL KUTAIT	Fort Smith
	*C. C. LONG	Fort Smith
*Senior Councilor		

The Advertising policy of this JOURNAL is governed by the PRINCIPLES OF ADVERTISING of the State Medical Journal Advertising Bureau, Inc., by the Advertising Committee of the Bureau and by the Council of the Arkansas Medical Society.

EXCLUSIVE PUBLICATION—Articles are accepted for publication on the condition that they are contributed solely to this JOURNAL.

COPYRIGHT 1975—By the JOURNAL of the Arkansas Medical Society.

NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

SCIENTIFIC ARTICLES

Echocardiography: Principles and
Some Diagnostic Applications 87
John E. Douglas, M.D.

Treatment Continuers and
Discontinuers in an Adult
Outpatient Psychiatry Clinic 92
*John L. Delk, Ph.D., and
William E. Johnson, M.A.*

FEATURES

Electrocardiogram of the Month..... 96
Robert T. Bulloch, M.D.

Office Orthopaedics: "The Wrist
Extension Cast: for fractures of
the metacarpals and phalanges".... 97
Philip H. Johnson, M.D.

Arkansas Public Health At a Glance,
"WIC In Arkansas" 101
Mrs. Yvonne Medley

Resolutions 103

Guest Editorial: "The University
System" 104
Thomas A. Bruce, M.D.

Medicine in the News 105

Outline of Generic Substitution Act 108

Obituary 109

Personal and News Items 109

Things to Come 110

Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72901. Published monthly under direction of the Council, Arkansas Medical Society, Volume 72, No. 2. Subscription \$2.00 a year. Single copies 50 cents. Entered as second class matter, May 1, 1955, in the post office at Little Rock, Arkansas, under the Act of Congress of March, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 1, 1918. Second-class postage paid at Little Rock, Arkansas.

Echocardiography: Principles and Some Diagnostic Applications

John E. Douglas, M.D.*

Diagnostic ultrasound is based on the same principles as sonar localization of submarines or fish. Sound bounces off interfaces between materials of differing densities. The longer the return time of the emitted sounds, the greater the distance to the reflecting surfaces. This direct relationship provides an accurate means of measuring distances.

Like the sailor with his nautical chart, the physician or technician obtaining an echocardiogram relies heavily on his knowledge of cross-sectional cardiac anatomy, and the normal motion of the individual structures of the heart. Since lung is a maze of air-fluid interphases, high frequency sound striking it is scattered and reflected in a nearly chaotic fashion. Therefore, it is not possible to sound the heart from the back or lateral chest, and often it is difficult to direct the ultrasound beam so as to miss the lingula of the left lung. Bone is a dense reflecting source and transmits high frequency sound poorly. Therefore except in infants with uncalfied ribs and sternum, the high frequency sound is best emitted and received through the intercostal spaces within a few cm. of the left sternal borders. The most common sites are the second through fourth intercostal space at or within 4 cm. of the left sternal border. In severely obese, emphysematous, or kyphotic patients or in patients with pectus excavatum, satisfactory echoes may not be obtainable except through a subxyphoid approach.

A gelatinous contact material is utilized to minimize transducer chest wall interface echoes. The sound frequency used ranges from 1.5 megaHz to 5.5 megaHz and the sound beam is usually focused at 5.0 to 10.0 cm. to minimize scatter. The transducer emits approximately

1/1000 of a second and receives for 999/1000 of a second. This energy form is completely innocuous and even if it were not, one could study a patient continuously for 20 minutes before the patient would receive one second of actual sound emission. A lead H electrocardiogram is usually recorded simultaneously with the echocardiogram to assist in structural identification and synchronization of motion. By directing the transducer inferio-laterally and superio-medially a scan similar to that shown in Figure 1 can be obtained.

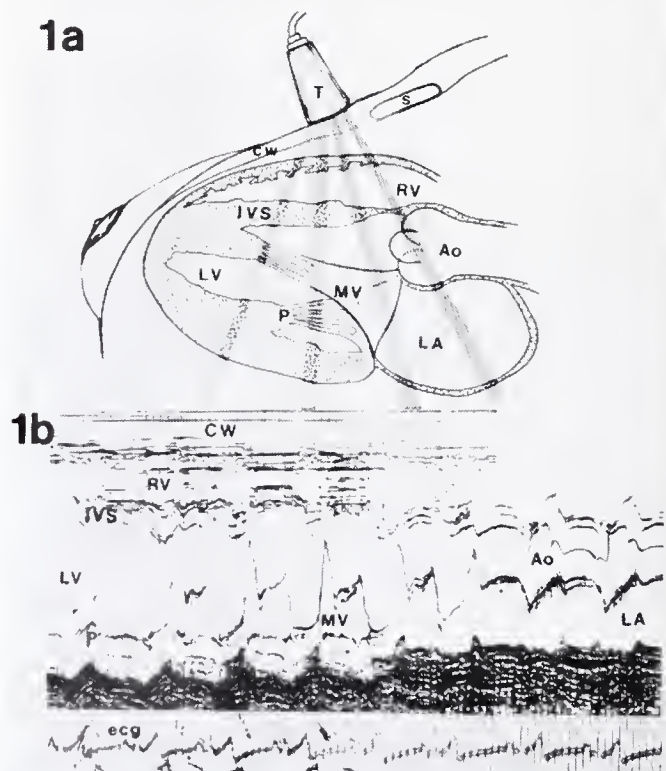


Figure 1.

Schematic of a cardiac oblique cross-section with ultrasound transducer directed towards the apex (left) and base (right) with the resulting echocardiographic scan shown below — Ao = aorta; CW = chest wall; ecg = electrocardiogram; IVS = interventricular septum; LA = left atrium; LV = left ventricle; MV = mitral valve; RV = right ventricle; S = sternum; T = transducer. (Reproduced by permission Douglas and Blue; Gut. and Heart Medicine: 1, Jan. 1975)

*Associate Professor of Medicine, Director, Non-invasive Laboratory, University of Arkansas Medical Center, 4301 West Markham, Little Rock, Arkansas 72205.

ECHOCARDIOGRAPHY: PRINCIPLES AND SOME DIAGNOSTIC APPLICATIONS

A technician can learn to obtain a well standardized electrocardiogram in a day. A physician may practice months and even years before he can interpret reliably the electrocardiogram. The echocardiogram, however, is more difficult to obtain, for initial structural identification and interpretation is necessary as it is being recorded. Thus echo technicians may take anywhere from three months to a year to gain proficiency. The interpreter given clear satisfactory echocardiograms can learn to interpret at least 90% of them within a few weeks.

A routine echocardiogram can be obtained at the patient's bedside using standard 60 cycles per second, 110 volt current, in about 15 to 20 minutes time. The patient is frequently best positioned at a 30° incline and tilted slightly on his left side. Fortunately this is a comfortable and desirable position for many cardiac patients. The cost of performing and interpreting an echocardiogram at one of the four medical centers in Arkansas where this technique is available ranges from \$40.00 to \$85.00.

The diagnostic applications of echocardiography are rapidly expanding. Table I enumerates many of these and also a few precautions for the novice lest he reach a diagnostic conclusion prematurely. Each issue of the major clinical cardiology journals contains one to four articles devoted to echocardiography. In all probability the proliferation of information which can be derived from an echocardiogram will continue.

The typical echocardiogram is obtained by scanning with the transducer from cardiac apex to base, including as a satisfactory minimum, the mitral and aortic valves. With increased experience the tricuspid and pulmonic valves can be visualized in 40% to 75% of the patients. A routine echocardiogram at the University of Arkansas Medical Center provides the information for completing the standard information form shown in Figure 2.

The echocardiogram does not replace cardiac catheterization. When possible, however, it should precede cardiac catheterization for it may better prepare the cath-lab team for the type of study they should perform. In some instances it can save the patient the time and discomfort of cardiac catheterization. For example, unless a patient with possible mitral stenosis is in need

of immediate surgery his diagnosis can be reliably established (Figure 3) and the relative severity assessed painlessly thereafter via echo-

ECHOCARDIOGRAPH REPORT

NON-INVASIVE LABORATORY

UNIVERSITY OF ARKANSAS MEDICAL CENTER

NAME: _____ AGE: _____

UAMC# _____ WEIGHT: _____ HEIGHT: _____

DATE: _____ CLINICAL Dx.: _____

Quality of echocardiogram= _____

Heart rate = _____

Anterior clear space diameter= cm. (0)*

RV wall thickness= cm. (less than .4 cm.)*

RV chamber thickness= cm. (0.5-2.1 cm.)*

IVS thickness= cm. (0.7-1.2 cm.)*

LVIDs= cm. (3.0-5.0)* Cubed= cc.

LVIDd= cm. (4.5 ± 1.0)* Cubed= cc.

LV posterior wall thickness= cm. (1.0 ± .2)*

AQ root diameter= cm. (2.0-3.7)*

AQ cusp orifice diameter= cm. (1.6-2.6)*

LA diameter= cm. (1.9-4.0)*

Posterior clear space= cm. (0)*

Mitral valve E-F slope= mm/sec. (60-150)*

AMVL excursion= cm. (greater than 2)*

E point opening= cm.

Duration diastole= sec.

Calculated MV flow= cc. stroke volume

LV stroke volume= cc.

Ejection fraction= % (diameters cubed method)

Mitral A-C duration= (less than 0.10 sec)*

ECG PR interval= _____

Cardiac output= _____

INTERPRETATION: _____

Normal Adult Values:

Figure 2.
Standard echocardiographic report form, currently used at the University of Arkansas Medical Center.

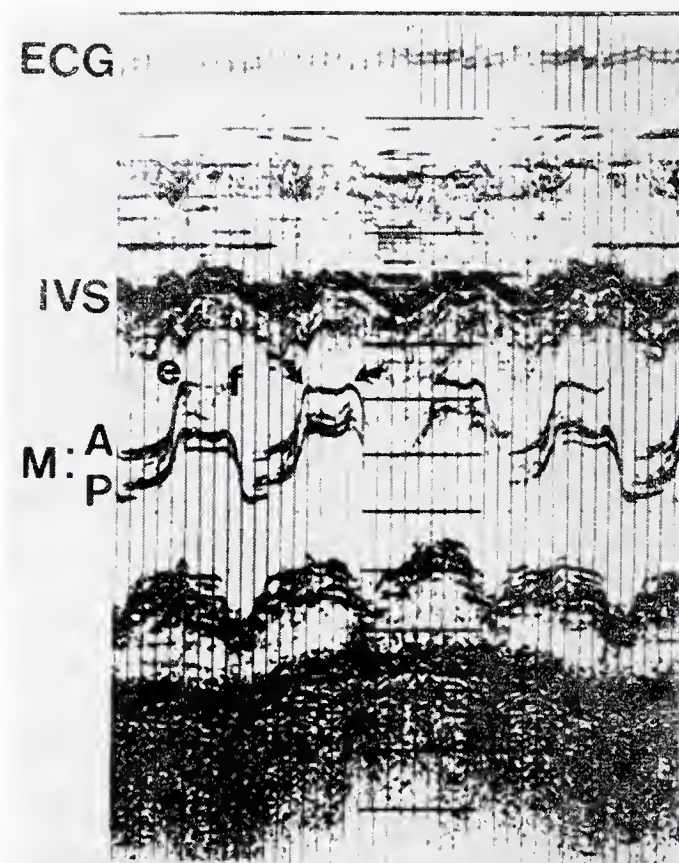


Figure 3.
Echocardiogram of a patient with severe mitral stenosis. Note that the anterior (a) and posterior (p) mitral leaflets (M) move in parallel during diastole, instead of as mirror images as in Figure 1. The E to F slope also delineated between the two arrows is virtually level instead of steeply downhill as in Figure 1.

cardiography. A patient meeting the echocardiographic criteria for asymmetric septal hypertrophy (Figure 4) need not undergo cardiac catheterization unless surgery is contemplated. Pericardial effusions are quite easily identified and partially quantified with an echocardiogram (Figure 5). The dilated, poorly contractile heart of a patient with a cardiomyopathy or with an aneurysmal, akinetic thin-walled left ventricle is visualized as in Figure 6, atraumatically and with relative ease.

However, the indiscriminate use of a new technique and the overzealous interpretation common to novices of such a technique may tend to discredit its usefulness. As the cautions in Table I indicate, a partial or limited echocardiographic study, or limited familiarity with the pitfalls of premature conclusions may do a disservice to the patient, the technique and eventually the physician. The limitations frequently reside in the technician and the interpreter who must therefore exercise appropriate restraint.

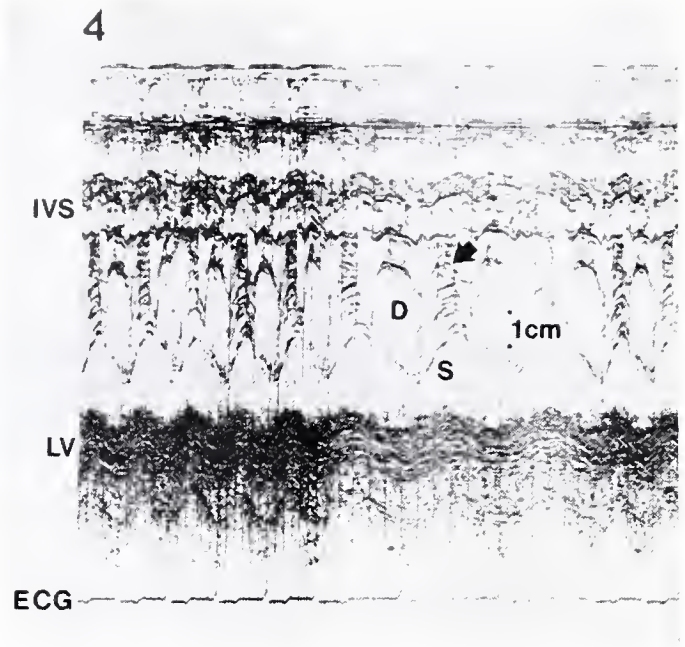


Figure 4.

Echocardiogram from a patient with severe asymmetric septal hypertrophy (idiopathic hypertrophic sub-aortic stenosis). During the mid-portion of the tracing the paper write-out speed was increased from 25 to 50 mm/sec. to provide increased clarity. Diastole is indicated by the D placed between the anterior and posterior mitral valve leaflets. Systole is indicated by the S placed behind the mitral leaflets which hudge abnormally anterior against the interventricular septum (IVS).

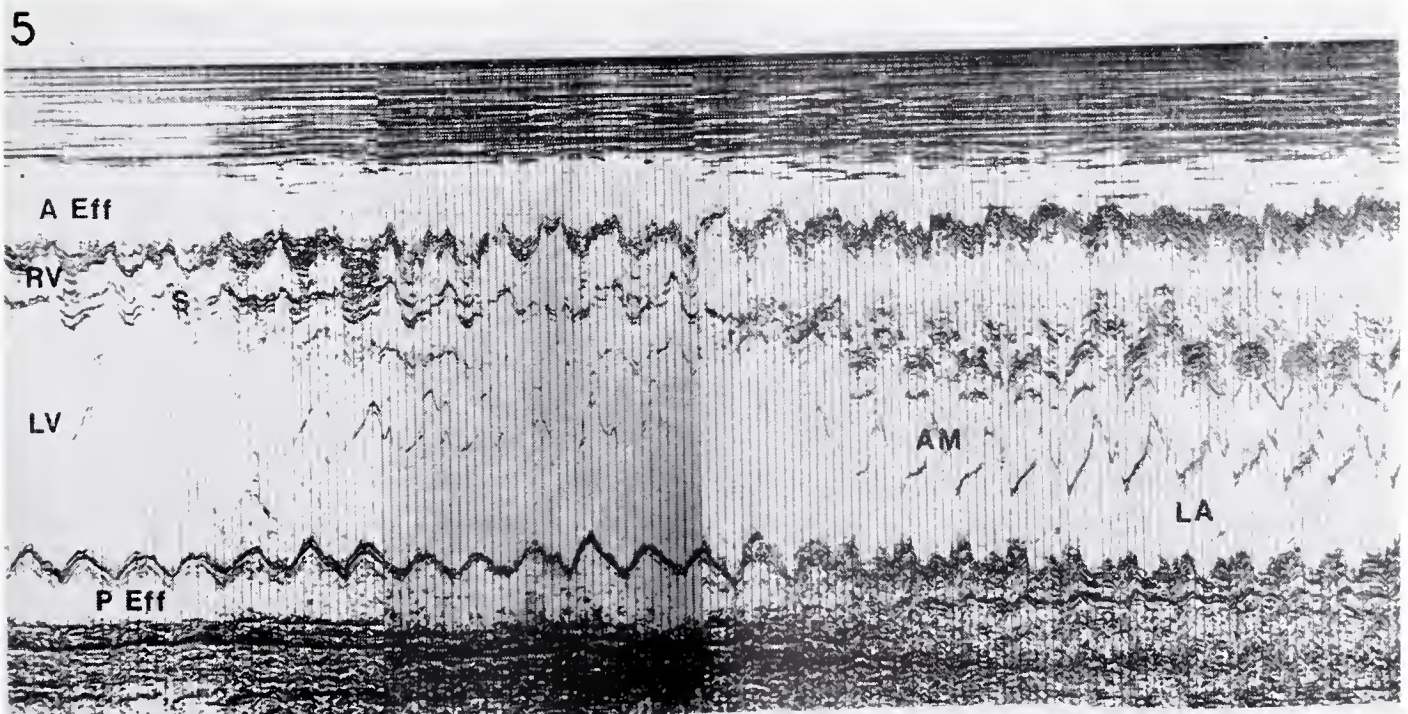


Figure 5.

Echocardiogram from a patient with a large anterior (AEff) and posterior pericardial effusion (PEff). The effusion can be seen behind the L.V. but tapers off as one approaches the L.A. because the pericardium becomes attached snugly to the posterior L.A. at its junction with the pulmonary veins. AM = anterior mitral leaflet.

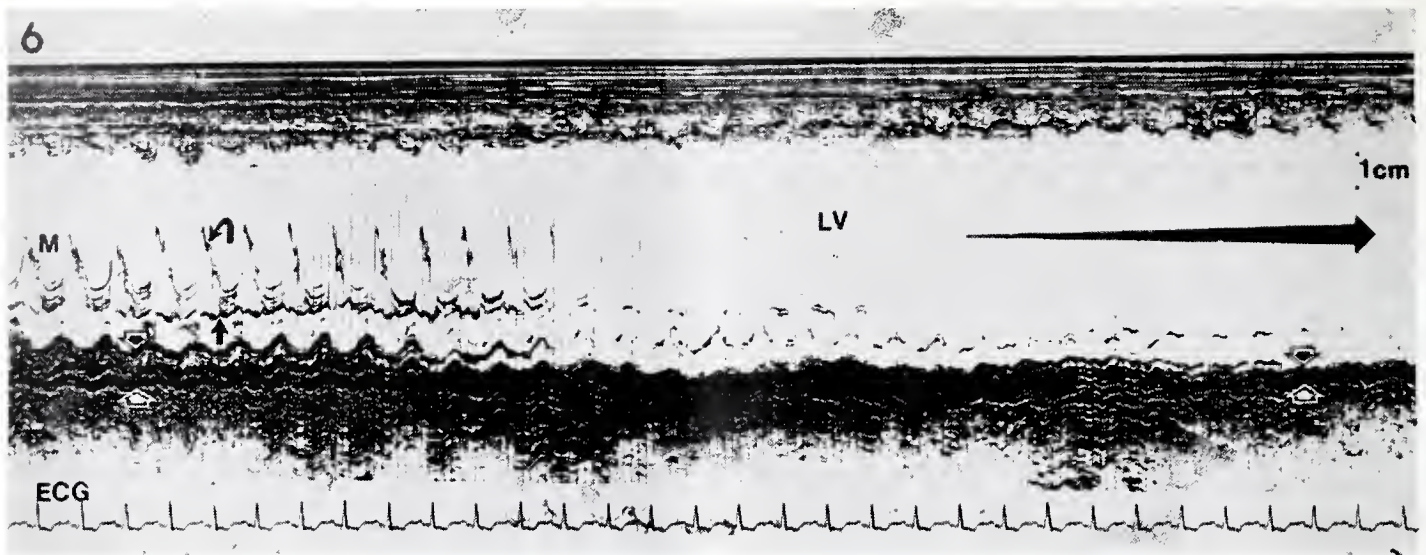


Figure 6.

Echocardiogram from a patient with a large L.V. aneurysm. In scanning towards the L.V. apex, the chamber actually enlarges, and posterior L.V. wall motion becomes akinetic. The interval between the arrows in the 5th diastole is the mitral (M) A-C duration. The patient's PR normally exceeds this interval by at least 0.06 sec. The double drawn black and white arrows at the left are separated by the L.V. endo-myocardium and pericardium. The pair of arrows to the right are separated by the L.V. epipericardium.

ECHOCARDIOGRAPHIC FINDINGS IN CARDIAC DISORDERS

MAJOR DISORDERS

Mitral Stenosis

1. altered E to F slope*
2. non-mirroring of posterior leaflet*
3. decreased excursion†
4. right ventricular dilatation†
5. increased left atrial diameter†

Precautions

1. decreased left ventricular compliance
2. atrial fibrillation with a fast ventricular response
3. primary pulmonary hypertension

Aortic Stenosis

1. decreased aortic valvular orifice*
2. increased fibrosis and/or calcification†
3. increased left ventricular chamber size†
4. increased left ventricular wall thickness†

Precautions

1. making a tangential slice through aortic root and failing to sound through orifice center

Idiopathic Hypertrophic Sub-aortic Stenosis (Asymmetric septal hypertrophy)

1. systolic anterior motion of the anterior leaflet of the mitral valve*
2. thickened interventricular septum*
3. aortic valve pre-closure†
4. amyl nitrate study†

Pericardial Effusion

1. posterior clear space behind left ventricle that disappears behind left atrium*
2. identification of pericardial echoes*

3. anterior clear space

Precautions

1. pleural effusions
2. right/left ventricular chamber mis-identification

Atrial Septal Defect

1. paradoxical interventricular septal motion*
2. increased right ventricular chamber size
3. anterior leaflet of mitral valve hitting interventricular septum during diastole†

Precautions

1. other causes of left-to-right shunts
2. know level at which viewing interventricular

OTHER DISORDERS

Mitral Valve Prolapse

1. posterior slumping of posterior leaflet of mitral valve during systole

Precautions

1. see slumping phenomenon repeatedly*

Flail Mitral Valve

Anterior leaflet

- erratic fluttering during diastole*

Posterior leaflet

- early anterior overshoot during diastole*

Aortic Insufficiency

1. fluttering of anterior leaflet of mitral valve during diastole*
2. increased left ventricular chamber size†
3. discordant calculated mitral valve flow and left ventricular stroke volume†

Precautions

1. other causes of fluttering of anterior leaflet of mitral valve such as flail mitral valve and atrial fib or flutter

Prosthetic Valves

Ventricular Septal Defect

1. identification of defect repeatedly†
2. increased right ventricular chamber size†

Congenital Bicuspid Aortic Stenosis

1. eccentricity of aortic leaflets during diastole
2. failure to identify all three cusps†

Coronary Artery Disease

1. akinetic and dyskinetic myocardial segments†
2. decreased cardiac output
3. ventricular aneurysm-thinning of ventricular wall with paradoxical systolic wall motion

Left Atrial Myxoma

1. abnormal mass of echoes between mitral leaflets during diastole moving into left atrium during systole

Other Physiologic Indices Indirectly Obtained

1. elevated left ventricular and diastolic pressure
2. stroke volume
3. mitral valve flow
4. ejection fraction

* = prerequisite evidence

† = supportive evidence

References may be obtained from the author upon request.



Treatment Continuers and Discontinuers in an Adult Outpatient Psychiatry Clinic

John L. Delk, Ph.D.*, and William E. Johnson, M.A.**

This study compared two samples (of 60 each) of patients in an Adult Outpatient Psychiatry Clinic, one group of active, continuing patients, and one group of patients who, within the past three years, had failed to continue treatment. Comparisons were made on 17 patient and treatment variables — age, sex, race, source of referral, marital status, previous treatment, occupation, source of income, education, travel distance to clinic, fees paid, status of therapist, type of therapy, number of visits to clinic, number of therapists, medication prescribed, and diagnoses. Examination of differences between the groups has led to suggestions which may help to reduce the number of discontinuers. Possibilities for improved services are discussed in context of the primary role of the University Medical Center as a teaching facility.

During its 21 years of existence, the Adult Outpatient Psychiatry Clinic, University of Arkansas Medical Center, has had over 70,000 patient visits. The majority of these patients were seen by medical student doctors in their third year of training as part of their 6-week clerkship in psychiatry. Currently, groups of 12-14 junior medical students spend two half-days in Outpatient Psychiatry, precepted in their handling of psychiatry cases by the permanent staff — a psychiatrist-director, a Ph.D. psychologist, two social workers, one or two psychiatry residents, and a psychology intern. Although the permanent staff see some patients privately, the bulk of the clinic case load is handled by junior students to provide them with training experiences.

Like any other treatment facility, outpatient psychiatry has had patients who discontinued treatment prior to the therapists' determination that treatment objectives had been achieved. That is, some patients, perhaps as many as 60% of the total case load, have failed to return for appointments after treatment was begun. This

study was conducted in hope of discovering what patient and treatment variables were associated with the discontinuing of the treatment program, so that both service and training could be improved.

METHOD

Sixty names of patients were randomly drawn from the active patient card file. The medical records of these patients were carefully examined for information pertinent to: age, sex, race, source of referral, marital status, previous treatment, occupation, source of income, education, travel distance from home to clinic, fees paid, status of therapist, type of therapy, number of visits to clinic, number of therapists seen at clinic, medication prescribed, and diagnoses carried. This group is hereafter referred to as the treatment continuers.

A second sample of 60 names was randomly drawn from the inactive card file. In order to be included in this group the card's last entry had to show a cancellation of appointment or a failure to keep appointment and the entry had to have been made within the last three years. The medical records of these 60 patients were also scrutinized to obtain the same kinds of information as described above. This group is hereafter referred to as the treatment discontinuers.

It should be noted that the two groups were not totally dichotomous, since it seems probable that some of the patients in the treatment continuer group (i.e., active patients) will at some point in time become treatment discontinuers. However, it appears reasonable to believe that any differences obtained between the two groups would have been *enhanced*, rather than diminished, if the two samples had been pure.

RESULTS AND DISCUSSION

Table 1 summarizes the comparisons between treatment continuers and discontinuers. The mean age of continuers was found to be 6 years greater than that of discontinuers ($p < .01$), with over 61% of discontinuers being 25 years of age or younger. The distribution by sex was

*Associate Professor of Psychiatry, Associate Director, Adult Outpatient Psychiatry Clinic, University of Arkansas Medical Center, Little Rock, Arkansas 72205.

**Psychology Examiner, Department of Psychiatry, University of Arkansas Medical Center, Little Rock, Arkansas 72205.

identical for both groups; however, female patients were found to comprise the great majority (78%) of the Outpatient Psychiatry Clinic's case load ($p < .001$). This finding is not surprising since it is consistent with national surveys^{1,2} which indicate that female patients greatly outnumber male patients in psychiatric care centers. According to feminists in the mental health field,³ one reason for the greater number of female psychiatry patients is the increasing desire of women to escape the sex-role stereotyping of housewife and sex object which results in heightened anxiety and guilt feelings. Other explanations for the relatively small percentage of male patients appear to be the male's greater reluctance to admit emotional problems and the comparatively greater difficulties of men to come to the clinic during its daytime operation. To compensate for the clinic's relative inaccessibility to working men and couples, evening hours of operation are being considered.

TABLE 1.

Summary of Comparisons Between Treatment
Continuers and Discontinuers
In the UAMC Adult Outpatient Psychiatry Clinic

VARIABLE	FINDING	STATISTICAL SIGNIFICANCE
1. Age —	Continuers 6 years older on average	$p < .01$
2. Sex —	No difference between Continuers and Discontinuers, but 78% of total sample female	$p < .001$
3. Race —	No difference between Continuers and Discontinuers, and % Blacks in total sample not significantly different from 20% in Greater Little Rock area	not sign.
4. Source of Referral —	No difference between Continuers and Discontinuers	not sign.
5. Marital Status —	More separated in Discontinuers	$p < .05$
6. Previous Treatment —	Non or private greater in Discontinuers, and another UAMC Clinic greater in Discontinuers	$p < .05$
7. Occupation —	Higher occupational levels in Discontinuers	$p < .01$
8. Source of Income —	Salary or hourly wage likely in Discontinuers, welfare, unknown or profits in Continuers	$p < .05$
9. Education —	Higher in Discontinuers, particularly in 8 years or more categories	$p < .05$
10. Traveling Distance —	No difference between Continuers and Discontinuers	not sign.
11. Pay Scales —	More Continuers pay reduced fees	$p < .05$
12. Type Therapist —	More Discontinuers with JMS, less with faculty	$p < .05$
13. Type Therapy —	More Discontinuers with individual only, less with combination	$p < .05$

11. Number of Visits —	Continuers average 26 more visits	$p < .001$
15. Number of Therapists —	Continuers average 5.6 more therapists, big loss of Discontinuers at 1st and 2nd change	$p < .001$
16. Medication —	More Continuers on combination, more Discontinuers on none	$p < .05$
17. Diagnosis —	More Discontinuers diagnosed as neurotic, continuers diagnoses more varied	$p < .02$

The distribution of Blacks and Whites were not significantly different for treatment continuers and discontinuers. Nor was the percentage of Blacks (22%) seen by the clinic significantly different from the percentage of Blacks (20%) in the general population of the state of Arkansas and the Greater Little Rock area.⁴ As shown in Table 1, sources of referral of patients in the two groups were not significantly different, although there was a relatively greater number of patients in the discontinuer group referred by M.D.'s in private practice. This trend, although of insufficient strength to gain statistical significance, appears to be consistent with other comparisons which show that discontinuing patients tend to be of somewhat higher socioeconomic status.

The marital status categories showing the greatest amount of variance ($p < .05$) are "single" (greater for continuing patients) and "separated" (greater for discontinuing patients). Why there should be a greater number of single patients in the continuing group is not entirely clear, particularly in light of the fact (presented earlier) that continuers are, on the average, 6 years older than discontinuers. The greater tendency toward unmarried status for continuers, along with a generally older age, could reflect relatively greater interpersonal conflicts and social isolation for the continuing group. On the other hand, discontinuers outnumber continuers 7 to 1 in the "separated" category. This disparity probably reflects more of a "crisis state" involving separation from spouse, which initially prompted these patients to come to the clinic. Once adjustment to the separation had occurred or the marital conflict resolved through either reconciliation or divorce, there was a strong tendency to discontinue treatment. The data also indicate ($p < .05$) that discontinuers are more likely to have had no previous treatment and, particularly, no previous contact with the University Hospital.

While over half of each group was unemployed, there is a tendency ($p < .01$) for the discontinuers to hold somewhat higher occupational/training levels. This finding is consistent with other socioeconomic comparisons. Discontinuers tend more often ($p < .05$) than continuers to be salaried or to work for hourly wages, while continuers tend either to have unknown sources of income or to rely on profits, odd jobs, or welfare. Treatment discontinuers are more apt ($p < .05$) to have completed more than eight years of schooling than are continuers, although five continuers and no discontinuers had completed a four-year college curriculum.

Prior to this study, it seemed that greater travel distance to the clinic by discontinuers would be a discriminating variable. As shown in Table 1, however, travel distance is not a statistically significant factor in patients' decision to discontinue treatment. This is true even though 12 discontinuers to 5 continuers resided within a 26-100 mile range from the clinic. Since over 75 per cent of the total patient load comes from the Greater Little Rock area (≤ 25 miles from the clinic), the 12 to 5 ratio in the 26-100 mile category becomes statistically insignificant. Nevertheless, for a given patient travel distance to the clinic may be the overriding factor in his decision to discontinue treatment.

At the University of Arkansas Medical Center, like many other state-supported institutions, the size of the fees for service charged to a patient is in part dependent upon his ability to pay. A comparison of the number in each treatment group who paid reduced fees with those who paid full fees was made. It was found ($p < .05$) that discontinuers are more likely than continuers to be full-fee patients. This finding is consistent with other data herein presented which indicate higher educational, vocational, and socioeconomic status for discontinuers than for continuers.

The classifications of therapists for patients in the two treatment groups were analyzed. The data revealed ($p < .05$) that patients who discontinue treatment are more likely to have been seen by junior medical students than by permanent faculty who are least likely to have patients discontinue. While experience (or lack of it) of the therapist may be a factor in the decision to discontinue, there are other variables involved

which seem to be very potent. First, there is probably a process of selection that occurs when permanent faculty consider engaging in the direct delivery of service which results in the permanent faculty choosing those patients who are more motivated, verbal, interesting, etc. Second, the number of therapists a patient sees (discussed below) confounds the issue of classification of therapist. Since there is a great turnover in the junior medical student category (due to the six-week rotation schedule), the factor of the therapist's experience is inextricably confounded with the number of therapists a patient sees.

The types of therapy offered to the two treatment groups were compared and the data indicate that a greater range of therapeutic modalities were tailored for the continuers, while virtually all the discontinuers (97%) were seen in individual therapy ($p < .05$). Since almost all new patients are seen initially in individual therapy, the data may mean that discontinuers failed to return for treatment before allocation to the appropriate treatment modality (e.g., group, family, conjoint) could be made.

A comparison between treatment continuers and treatment discontinuers in regard to number of visits made to the clinic was made. Continuers averaged 26 more visits than did discontinuers — 31.87 to 5.77 ($p < .001$). Of the discontinuers, 26 (43%) failed to continue after 1-3 visits, and another 28 (47%) failed to continue after 4-10 visits. On the other hand, 24 (40%) of the continuers had made more than 25 visits to the clinic, with five having made more than 125 visits. While there would seem to be built into the study an expected relationship between the number of visits and continuing/discontinuing, it should be remembered that the number of visits to the clinic was in no way involved in the criteria for selection of the two samples. At any rate, the figures reveal that 90% of the discontinuers failed to continue treatment after 10 or fewer visits to the clinic.

Continuers saw on the average, 8 different therapists, while discontinuers averaged only 2.4 therapists ($p < .001$). Eight of the continuers saw more than 20 different therapists and 43% of the continuers saw more than four therapists. On the other hand, 40% of the discontinuers saw only one therapist and another 32% saw two therapists. In other words, 72% of the discon-

tinuers failed to return for treatment after seeing only one or two therapists. From these data it would appear that a scheduled (or anticipated) change in therapist, or finding a different therapist upon return to the clinic is highly associated with discontinuing treatment. However, once adjustment is made to the initial change in therapist, further therapist replacement appears to be accepted or, at least, tolerated.

Discontinuers were more likely than continuers (37% to 18%) to have received no medication ($p < .05$), whereas a combination of medications was more often prescribed for continuers than for discontinuers (50% to 35%). Of the 60 discontinuers, 40 (73%) carried a diagnosis within the psycho-neurotic classification, contrasted to only 28 (47%) of continuers so classified ($p < .02$). Diagnoses of continuers are more varied than those of discontinuers, and tend to reflect more severe and resistant disorders. In some ways the data suggest that those who discontinue treatment have milder problems and are in less need of prolonged treatment than are those who choose to continue therapy. However, a larger percentage (70%) of discontinuers have depression associated with their disorder, compared to only 40% of continuers.

CONCLUSION AND PROGRAMMATIC CHANGES

Of the variables which have been found to be significantly related to a patient's decision to discontinue treatment, change of therapist appears to be of paramount importance. Unlike practice in some other medical specialties, effective psychiatric treatment requires developing and maintaining a good interpersonal relationship with the patient. Changes of therapists are obviously disruptive of this relationship and sometimes anti-therapeutic. However, because of the University Hospital's primary role as a teaching facility for medical students, and because of the six-week rotation of junior students through clerkships in various specialties, this problem cannot be entirely eliminated. The effects of therapist replacement can be softened somewhat by strengthening those elements in the treatment

program that enhance the perception of continuity in the eyes of the patient.

It has long been standard procedure in the Adult Outpatient Psychiatry Clinic to give to each patient an individual appointment time and to assign, specifically, a medical student to each patient along with a permanent staff member as preceptor. Students are encouraged to study the patient's case history and consult with his preceptor before his initial contact with a patient. Preceptors can be a stabilizing force to offset the effects of student turnover by making frequent, although brief, contacts with patients after they are seen by student therapists. However, preceptor-patient relationships have to be somewhat delicate to avoid underscoring the status of the student and thereby diminishing the patient's confidence in his role as therapist.

Since this research was undertaken, several changes have been made in the clinic. Midway in the clerkship a feedback session is held with the students, and at the end of the clerkship they are invited to complete, anonymously, a questionnaire related to their clerkship experience. There are reading assignments, lectures, and demonstrations which focus on the following topics: orientation, interviewing, outpatient psychiatric care, chemotherapy, psychological evaluation, short-term psychotherapy, group psychotherapy, Jacobson's progressive relaxation technique, biofeedback techniques, State Mental Health agencies and resources, and behavior modification procedures. Weekly staff meetings are also held.

It is hoped that these additions will result in both improved training and better patient care which will be reflected in a smaller percentage of patients who discontinue treatment.

FOOTNOTES

1. Phyllis Chesler, *Women and Madness*, Doubleday and Company, Garden City, New York, 1972.
2. New York Times News Service, New York, New York, March, 1974.
3. Phyllis Chesler, *Women and Madness*, Doubleday and Company, Garden City, New York, 1972.
4. *General Population Characteristics of Arkansas, 1970 Census of Population*, U. S. Department of Commerce, Bureau of the Census, 1970.





ELECTROCARDIOGRAM

OF THE MONTH

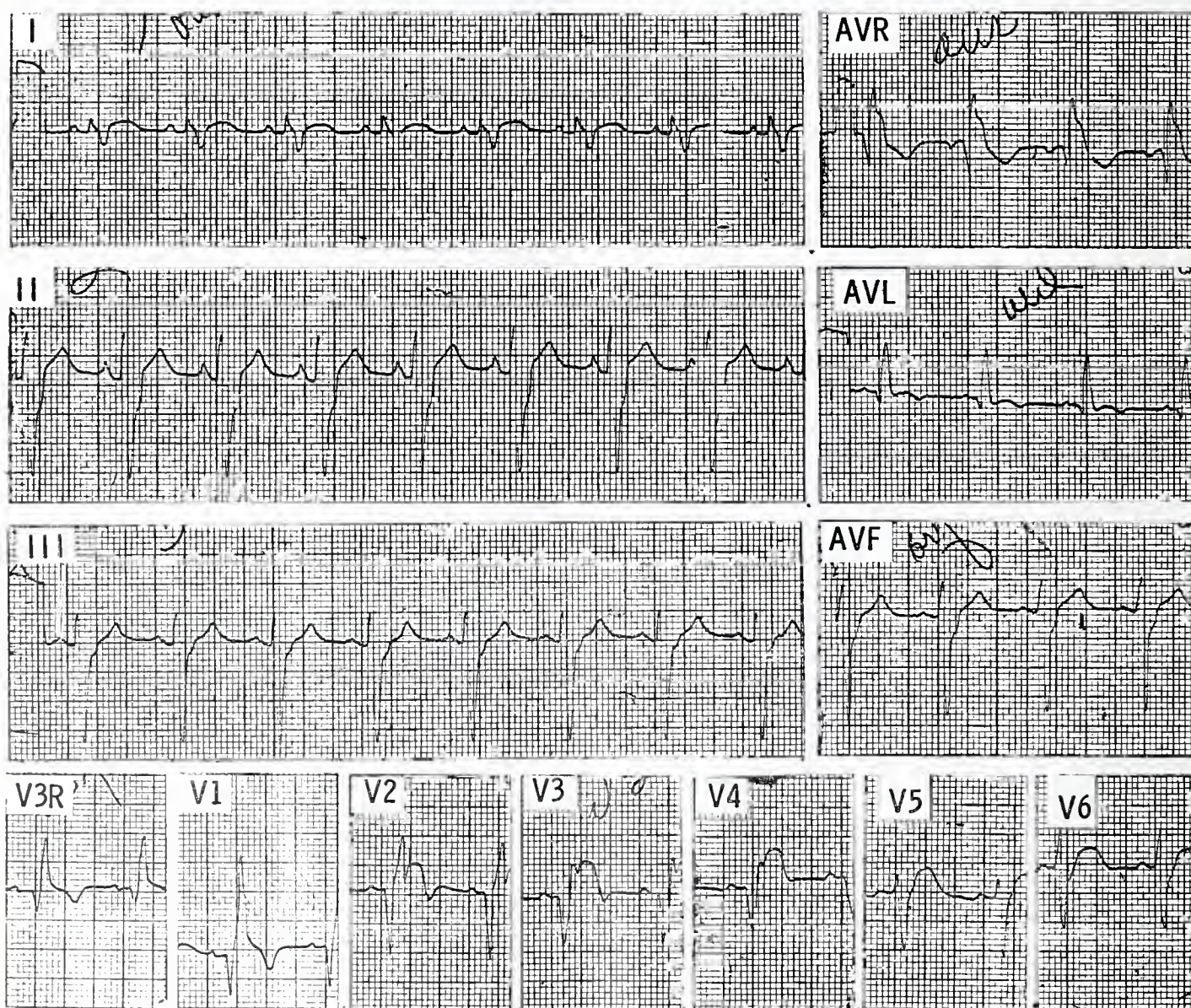


The Department of Cardiology, University of Arkansas Medical Center

(See Answer on Page 103)

The patient was a 55-year-old male who had chronic obstruction pulmonary disease. He developed chest pain and dyspnea and was admitted to the hospital.

ECG OF THE MONTH



Robert T. Bulloch, M.D.
Professor of Medicine
Chief, Cardiology Section
University of Arkansas Medical Center
Little Rock, Arkansas 72205

THE WRIST EXTENSION CAST: for fractures of the metacarpals and phalanges

Philip H. Johnson, M.D.*

The great majority of fractures of the metacarpals and phalanges are "stable" and can be effectively treated by manipulation and immobilization.⁴ Only unstable oblique or comminuted fractures, as those involving the joint, require closed or open reduction with K-wire fixation. The fractured finger, however simple, should never be lightly regarded as it may later pose functional problems. Immobilization in "the position of function" has long been recognized as required for almost every hand injury. It will be the purpose of this article to describe an ideal means of immobilization and outline a method of treatment easily carried out in the office.

A short arm cast with the wrist in at least 60 degrees extension is the cornerstone of this method. It provides the very foundation upon which the treatment rests. The reduction, which is usually easy to obtain,⁵ must be securely maintained for three weeks.

Metacarpal and phalangeal fractures, excluding the thumb, have a characteristic appearance. Fractures of the metacarpals are angulated dorsally. Fractures of the proximal and middle phalanx are angulated volarly (Fig. 1). The rare exception is the fracture of the proximal one-fourth of the middle phalanx which will not be considered. The reason for this typical angulation, in both cases, is due to the pull of the interosseous muscles and the extensor mechanism.^{1,3,4} Fractures of the distal phalanx, ex-

clusive of the joint, are distal to these tendon forces and are treated as soft tissue injuries only.

Angulation and rotation must be corrected at the time of reduction.⁶

The Metacarpal (including Boxer's Fracture, Fig. 2): The distal fragment is reduced to the

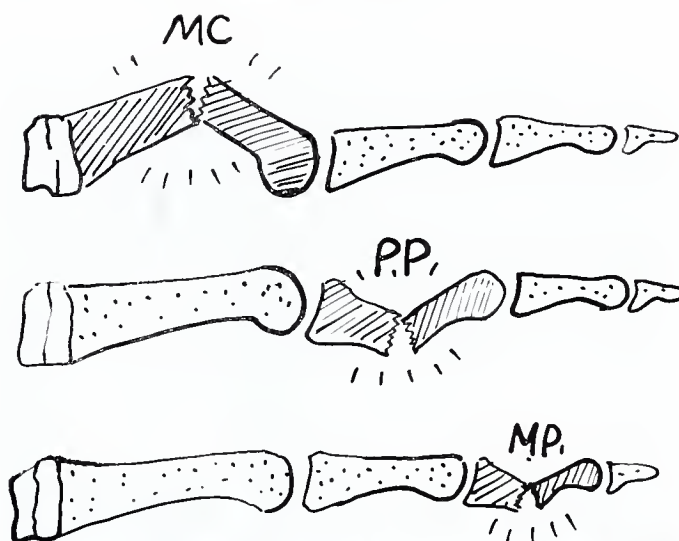


Figure 1. — Metacarpal and phalangeal fractures with their characteristic angulation.

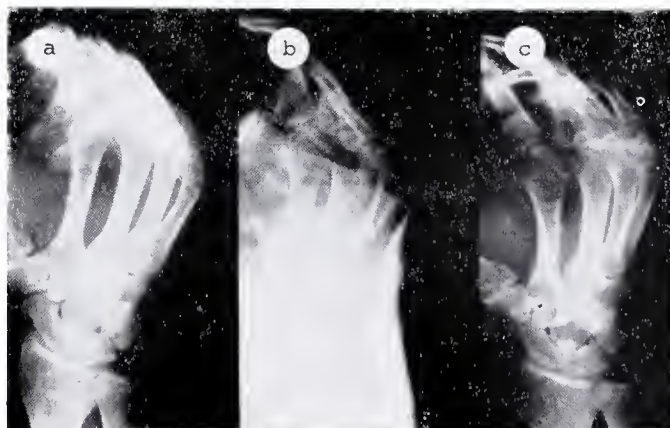


Figure 2-a. — Boxer's Fracture.
Figure 2-b. — Reduced and immobilized in cast.
Figure 2-c. — 4 weeks post reduction.

*Little Rock Orthopedic Clinic, P.A., Post Office Box 5270, Little Rock, Arkansas 72205.

proximal fragment by pushing upward on the finger with the MP joint in 90 degrees flexion. In this position the collateral ligaments at the MP joint are maximally taut allowing control of the distal fragment. The MP joint and PIP joint are secured firmly in 70-80 degrees flexion. The finger of the involved metacarpal must be splinted.

The Phalanges (Figs. 3 & 4): Traction and flexion during manipulation are sufficient to obtain accurate reduction.⁵ The reduction is easily maintained by keeping the finger in 70-80 degrees flexion at the MP and PIP joints. With finger flexion, tension is placed on the collateral ligaments and intrinsic muscles aiding in axial stability of the fracture.⁶

THE METHOD

Anesthesia for the involved finger is obtained by regional nerve block. Injection into the fracture site produces undesirable swelling, making reduction more difficult to assess. The ulnar nerve is easily blocked at the elbow with 5-8 cc. of 1% Xylocaine. This provides complete anesthesia for the little finger and anesthesia for the ulnar one-half of the ring finger. The median

nerve at the wrist is easily found just radial to the palmaris tendon and is blocked with the same preparation. It provides good anesthesia for the index, middle, and radial half of the ring finger. This may be supplemented by subcutaneous infiltration of the radial nerves on the dorsum of the hand.

Once the block or blocks have been accomplished, and before phalangeal reduction, the wrist extension cast is applied. Plaster extends from below the elbow to the proximal palmar crease and permits a full 90 degrees flexion at the MP joints (Fig. 5). The wrist is immobilized in at least 60 degrees of extension (Fig. 3-b). While the plaster is drying the transverse metacarpal arch is molded into the cast.¹ If a metacarpal fracture is being treated, it is reduced at this time, holding the MP joint in 90 degrees flexion and pushing upward on the distal fragment (Fig. 2). If the fracture is of the proximal

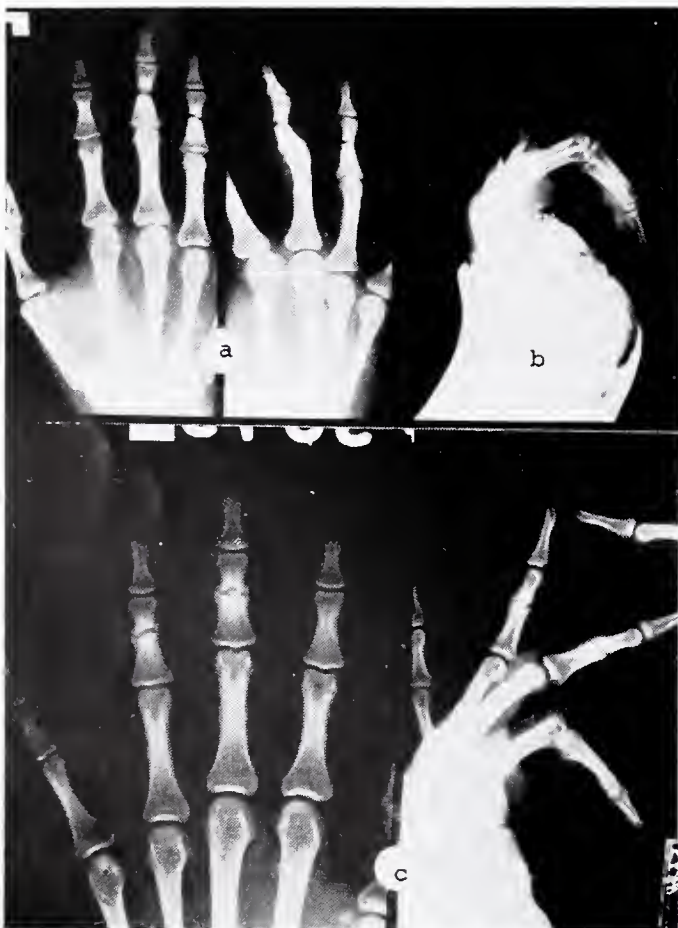


Figure 3-a. — Angulated fractures of the middle phalanx of the long and ring fingers.

Figure 3-b. — Reduced and immobilized in cast with fingers taped.

Figure 3-c. — 6 weeks post reduction.



Figure 4-a. — Fracture base of the fifth proximal phalanx angulated volarly 40°.

Figure 4-b. — Reduced and immobilized in cast with the ring and little fingers taped.

or middle phalanx it is reduced after the cast has become firm. In either case the finger is secured in a position of flexion, over a small roll of cotton Webril, with one-half inch adhesive tape. Tape strapping is begun over the dorsum of the proximal phalanx and brought down either side of the finger and finally secured to the tape previously wrapped about the cast at the wrist. The tip(s) of the injured finger(s) is taped toward the navicular tuberosity to insure proper alignment. The finger tip and nail is left free of tape as a further check for rotation and adequacy of circulation.⁶ An adjacent finger is usually secured in a similar fashion to maintain better alignment, rotation, and rest for the fracture digit. Roller gauze is now wrapped about the immobilized fingers and cast, for further security.

Immobilization is maintained with the fingers taped for three weeks. The tape strapping is then removed and the cast is left in place for at least an additional week for two reasons. Finger flexion is aided by strong wrist extension, and the MP joints in a position of rest fall into flexion. During this time active exercises are strongly encouraged. X-ray union at 3-4 weeks is never seen, however, will eventually occur. Non-union in these fractures is extremely rare.

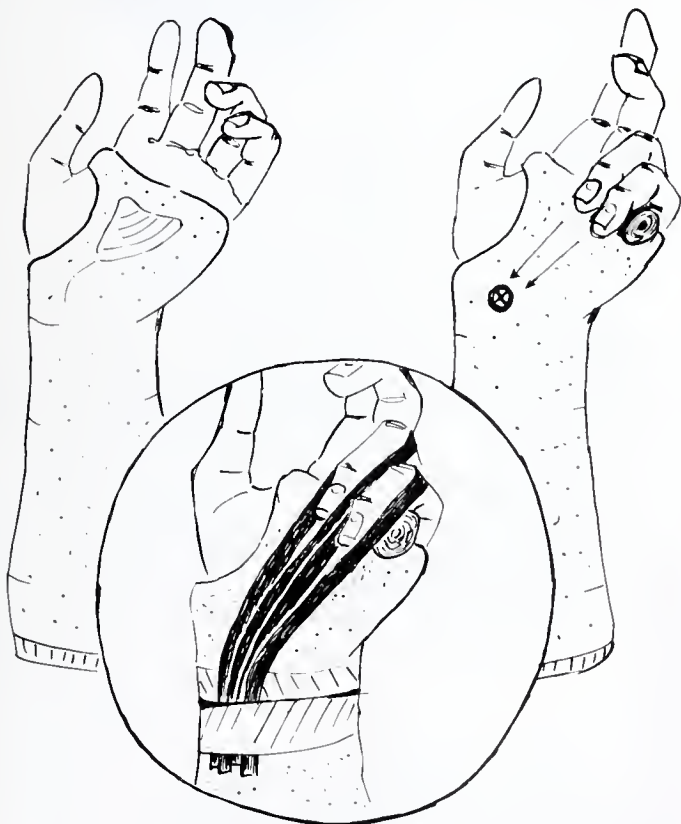


Figure 5. — Initial application of Wrist Extension Cast (left). Subsequent reduction (right) and immobilization (center) of the ring and little fingers. (Illustration applicable to fractures of the metacarpal, proximal, or middle phalanx.)



Figure 6-a. — Fracture at the base of the fifth proximal phalanx angulated, malrotated, and involving the joint.

Figure 6-b. — Post reduction x-ray.

Figure 6-c. — 4 weeks later.

DISCUSSION

Most authors in describing the best position for immobilization of these fractures recommend varying degrees of finger flexion or simply recommend "the position of function." Kaplan, however, recommended for both fractures of the metacarpal and phalanx a "full plaster cast extending up the forearm in slight dorsiflexion."² Kilbourne recommends "a light cast applied from the distal forearm to the plantar crease with the wrist in 40 degrees flexion."³ Wrist extension in a well molded cast is essential for two basic reasons.

(1) Rotation: As each individual finger is flexed toward the palm with the wrist extended, it will point to the navicular tuberosity. This is the direction to which the involved finger(s) should be directed during reduction and to which it should be immobilized. Only in this manner can proper rotation be insured. Suto strongly emphasized this principle and described the application of a "Plaster of Paris Mitten" incorporating all the fingers.⁷ He recommended releasing the uninvolved fingers by the tenth day for periods of exercise. The fractured digit was not disturbed for a full three weeks. The cast itself was maintained for six to seven weeks.

(2) Collateral Ligament Contracture: The collateral ligaments at the metacarpophalangeal joints and to a lesser extent the PIP joints are lax in extension and taut in flexion. Injury of the metacarpal or proximal phalanx about these joints produces edema and swelling of tissues. Contracture of collateral ligaments, loose in extension, may later produce an extension deformity of the finger. This potential complication is prevented by splinting the MP and PIP joints in 80 degrees flexion. With the wrist extended 60 degrees or more you will notice this is the "position of comfort." After the finger taping has been removed at three weeks, while

Doctor
Shouldn't You
Contribute To
M. E. F. F. A.?

- Your Contribution Is Tax Deductible
- You May Earmark Funds
- You May Contribute Cash, Books, Life Insurance, Land Instruments, Stamp and Coin Collections, Works of Art, Securities, etc.

When You Contribute You Help Achieve the Objectives of the Foundation Which Are Set Forth in The Charter Under the Purposes:

1. To engage in and carry out scientific research, charitable, educational and scientific activities and projects.
2. Assist medical students in the pursuit of their education.
3. To administer governmental programs and grants.
4. To accept and hold as assets of the corporation in trust or otherwise consistent with its other charitable purposes.

One Way You Can Support Your Foundation Is by Completing the Bequest Form Below and Mailing to:

ARKANSAS MEDICAL SOCIETY

P. O. Box 1208

Fort Smith, Arkansas 72901

M. E. F. F. A.

Form of Bequest

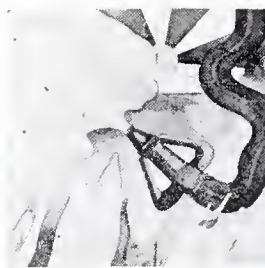
I give and bequeath to the Medical Education Foundation for Arkansas, the sum of _____

_____ dollars (\$ _____)

to be used by the Board of Trustees of the Foundation for _____

(state purpose of gift if restricted)

Signed _____



Pro-Banthine®

brand of
propantheline bromide

Indications: Pro-Banthine is effective as adjunctive therapy in the treatment of peptic ulcer. Dosage must be adjusted to the individual.

Contraindications: Glaucoma, obstructive disease of the gastrointestinal tract, obstructive uropathy, intestinal atony, toxic megacolon, hiatal hernia associated with reflux esophagitis, or unstable cardiovascular adjustment in acute hemorrhage.

Warnings: Patients with severe cardiac disease should be given this medication with caution. Fever and possibly heat stroke may occur due to anhidrosis.

Overdosage may cause a curare-like action, with loss of voluntary muscle control.

For such patients prompt and continuing artificial respiration should be applied until the drug effect has been exhausted.

Diarrhea in an ileostomy patient may indicate obstruction, and this possibility should be considered before administering Pro-Banthine.

Precautions: Since varying degrees of urinary hesitancy may be evidenced by elderly males with prostatic hypertrophy, such patients should be advised to micturate at the time of taking the medication.

Overdosage should be avoided in patients severely ill with ulcerative colitis.

Adverse Reactions: Varying degrees of drying of salivary secretions may occur as well as mydriasis and blurred vision. In addition the following adverse reactions have been reported: nervousness, drowsiness, dizziness, insomnia, headache, loss of the sense of taste, nausea, vomiting, constipation, impotence and allergic dermatitis.

Dosage and Administration: The recommended daily dosage for adult oral therapy is one 15-mg. tablet with meals and two at bedtime. Subsequent adjustment to the patient's requirements and tolerance must be made.

How Supplied: Pro-Banthine is supplied as tablets of 15 and 7.5 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type vials of 30 mg.

SEARLE

Searle & Co.

San Juan, Puerto Rico 00936

Address medical inquiries to: G. D. Searle & Co.
Medical Department, Box 5110, Chicago, Ill. 60680 481

maintaining the cast, the MP joint falls into the flexed position during periods of rest. This obviates continued immobilization for fingers still edematous and prevents late contracture.

Fractures involving joint surfaces require precise reduction, usually open, with pin fixation, but some may be managed with this technique (Fig. 6).

CONCLUSION

Stable angulated fractures of the metacarpals, proximal and middle phalanges (exclusive of the thumb) share many things in common. The most important of these is the position of immobilization. The wrist extension cast, in at least 60 degrees of extension, is the cornerstone of this closed method of treatment.

BIBLIOGRAPHY

1. Flatt, A. E.: *The Care of Minor Hand Injuries*. C. V. Mosby, 1972.
2. Kaplan, I.: *The Management of Hand Injuries*. S. Afr. Med. J. 44:1011-5, Sept., 1970.
3. Kilbourne, B. C., and Paul, E. G.: *The Treatment of Industrial Hand Injuries III. Bone and Joint Injuries*. J. Occup. Med. 3:123-8, Mar., 1961.
4. Mital, M. A., et al.: *Fractures and Dislocations About the Distal Forearm, Wrist, and Hand. Progress in treatment in the last decade*. Am. J. Surg. 124:660-5, Nov., 1972.
5. Mansoor, I. A.: *Fractures of the Proximal Phalanx of Fingers*. J. Bone Joint Surg. 51A:196, 1969.
6. Sandzen, S. C., Jr.: *Treating Acute Hand and Finger Injuries*. Am. Fam. Phy. 9:100-17, June, 1974.
7. Sutro, Chas. J.: *Fracture of Metacarpal Bones and Proximal Manual Phalanges*. Am. J. Surg. 81:327-332, Mar., 1951.



PUBLIC HEALTH AT A GLANCE

WIC in Arkansas

Mrs. Yvonne Medley*

During April 1975, 3,775 women, infants and children (under four years of age) were provided supplemental foods in a 14-county area of Arkansas.

The Special Supplemental Food Program for Women, Infants and Children (WIC Program), authorized by an amendment to the Child Nutrition Act, provides cash grants to State Health Departments and approved local health clinics for the purpose of providing specified nutritious food supplements to pregnant and lactating women, infants and children up to four years of age who are nutritional risks because of inadequate income. The program is administered

by the Department of Agriculture's Food and Nutrition Service (FNS).

FNS has now approved 375 project areas in 49 states, Puerto Rico and the Virgin Islands to participate in the WIC Program. These project areas have an approved monthly caseload of 737,000 for fiscal year 1975. Funds for the WIC Program for FY 1975 include \$100 million under appropriation authority plus carry-over available from unexpended fiscal year 1974 monies.

In order to fulfill the Congressional mandate to assess the benefits of the WIC Program, the Department is conducting two evaluations. The detailed medical evaluation is designed to determine the nutritional and medical benefits of foods provided to program participants. The

*Administrative Assistant, Division of Maternal and Child Health, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.

WIC COUNTIES IN ARKANSAS, 1975



other evaluation will examine the efficiency, effectiveness, and operational costs of the various state and local food delivery systems being used to reach the target population. Three counties in Arkansas are included in this evaluation.

Individuals are eligible to participate in the WIC Program if they:

- a. Are in the specific population target group:
 - pregnant women
 - all post-partum women up to six weeks and lactating women up to one year after delivery
 - infants under 1 year of age
 - children under 4 years of age
- b. Are determined by a competent professional (physicians, nutritionists, registered nurses, dietitians and other health officials) on the

staff of the local agency to need supplemental foods because of:

- known inadequate nutritional patterns; or
 - high incidence of nutritional anemia; or
 - inadequate or deficient patterns of growth; or
 - high rates of prematurity or miscarriage
- c. Reside in an approved project area; and
 - d. Are eligible for free or reduced-cost medical treatment by the local agency which serves the project area wherein they reside.

The legislation which established the WIC Program required the provision of supplemental foods containing nutrients known to be lacking in diets of populations at nutritional risk, particularly high-quality protein, iron, calcium, vitamin A, and vitamin C. The food package was

therefore designed to contain foods which provide these nutrients in amounts which meet certain minimum percentages of 1968 U. S. Recommended Dietary Allowances (RDA).

Under the WIC Program infants may receive iron-fortified infant formula, infant cereal which is high in iron, and fruit juice which is high in vitamin C. Participating women and children may receive fortified milk and/or cheese; eggs; cereal which is high in iron; and fruit or vegetable juice which is high in vitamin C.

On February 26, 1975, Senator George McGovern introduced a bill to amend the National School Lunch and Child Nutrition Acts to extend and revise various nutrition programs. This bill includes provision to extend the WIC program beyond its June 30, 1975, funding period.

In introducing this legislation, Senator McGovern made the following remarks pertaining to WIC:

"This legislation also extends and expands the WIC Program. The WIC Program is one of our very most promising. It is in need of some revision this year, but that is to be expected with any pilot project. The Select Committee on Nutrition and Human Needs has held extensive

hearings in the area of diet supplementation for high-risk persons, and the recommendations before the committee plus the knowledge gained from the observation of local WIC projects has been incorporated in this bill.

"Many WIC administrators, nutritionists, nurses, and participants were consulted in the formulation of this new legislation.

"The Nutrition Committee has been collecting data from state WIC directors, and the initial perusal of that data indicates overwhelming acceptance and the success of the WIC program. Almost every state has the desire and capability to expand their WIC programs right now.

"I think the initial idea behind the WIC program, that it makes the most sense to supplement people's diets during their most vulnerable periods, and their periods of greatest growth, still makes a great deal of sense today. In addition, I think it is saving the taxpayer's money. I think it is cheaper to help someone for pennies when they are in their formative years, than to attempt to pull along someone who is only partially employable because of a health defect, or someone who is a slow learner, or someone born with a birth defect."



RESOLUTIONS



Drew F. Agar, M.D.

WHEREAS, the recent death of our colleague, Drew F. Agar, M.D., is noted with sincere sorrow, and

WHEREAS, Dr. Agar had been an esteemed and respected member of the Pulaski County Medical Society for twenty-seven years, and

WHEREAS, Dr. Agar's contribution to the well-being of the community has been immeasurable, as has his contribution to organized medicine:

BE IT THEREFORE RESOLVED: THAT, this resolution be made a part of the permanent records of this Society, and

THAT, a copy of this resolution be forwarded

to Dr. Agar's family as an expression of sincere sympathy, and

THAT, a copy of this resolution be forwarded to the Journal of the Arkansas Medical Society for publication.

By Direction of the Memorials Committee
T. Duel Brown, M.D., Chairman
Henry Hollenberg, M.D.
Robert Watson, M.D.



ANSWER—Electrocardiogram of the Month

INTERPRETATION: The electrocardiogram shows right bundle branch block. In the precordial leads there are deep, wide Q waves, ST segment elevation and diminishing height of the R waves. These findings are consistent with an acute anterior myocardial infarction. Acute infarction is not marked by RBBB but had left bundle branch block been present, the ECG is usually nondiagnostic.



EDITORIAL

The University System

Thomas A. Bruce, M.D.*

June is the natural time to get married . . . graduation is over and the biological urges of Spring not yet forgotten. One of the surprise brides at the end of June this year is the University Medical Center. She's not exactly a youthful virgin but then who's to say that life doesn't REALLY begin at 97 years? With the ceremony will come more independence, a new name, and additional responsibilities.

To a considerable extent the change is more an acknowledgement of a long-established "arrangement" than anything else. Medicine has never actually lived at the University home in Fayetteville and parental control has been awkward over the years for all concerned. Recently the University of Arkansas system has unfolded, with separate campuses in Little Rock, Pine Bluff and Monticello. The advantages of the new system have quickly become apparent: a capacity to respond to unique local needs and opportunities, significantly upgraded quality in teaching and scholarship, and an ability to provide leadership and numerous new services in a variety of state areas. It has now come time for the Medical Center to do away with its old-fashioned administrative way of dealing with the Fayetteville campus and become a complete campus in the mode of the new University System. Such was the decision of the U of A Board of Trustees at its May meeting, and the official change is to occur at the end of this month. The new name to signify the new role will be the UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES. Dr. James L. Dennis will no longer be "Vice President for Health Sciences" (a title which suggests he is primarily a staff-officer of the President), but "Chancellor" of the UAMS campus.

The name was not chosen casually. The term "Medical Center" has virtually replaced the

word "Hospital" as a result of television promotion. Moreover, "Center" carries a geographic connotation that is increasingly at odds with our statewide mission. Are the Area Health Education Centers (AHECs) a part of the "Medical Center?" They certainly are an integral part of the University's medical education program, and the new title will allow us more clearly to emphasize either the academic and service *programs* (the U of A for Medical Sciences) or the buildings and land at the hub (the UAMS *campus*). Moreover, since HEALTH Sciences training programs are being developed in institutions of higher learning across the state, the term MEDICAL Sciences seems to fit our unique identity aptly.

At the time of the campus change the School of Medicine likewise will be upgraded to a College of Medicine. The status of a professional school has never been very great in the University. "School" has always had a trade-school flavor and has never carried the authority or prestige of the College of Education, Engineering or Agriculture. In spite of this the medical faculty have for years been educating students for the Masters and PhD. degrees as well as the M.D. degree. In addition we have had a variety of in-depth postdoctoral and continuing education programs. The "College" name should improve our ability to compete for limited resources within the University. As we look afresh at our goals to produce the number and type of physicians needed in Arkansas, and to build a greater academic institution as a resource to the people and the physicians of the State, we will need all the support we can find both within and outside the University.

And so the old girl becomes wedded to a new destiny — " . . . For richer, for poorer, in sickness and in health, till death doth us part . . . " It's a glorious occasion!

*Dean, College of Medicine, The University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72205.

MEDICINE IN THE



THE MONTH IN WASHINGTON

The American Medical Association has introduced a new proposal for national health insurance into the U. S. Congress. Key lawmakers on both sides of the aisle in the House of Representatives are sponsors of the bill — HR 6222.

The AMA proposal is the only substantially new approach to national health insurance (NHI) presented so far in the 94th Congress. Called the Comprehensive Health Care Insurance Act, the bill was introduced into the House by Reps. Richard Fulton (D.-Tenn.); Tim Lee Carter (R.-Ky.); John Duncan (R.-Tenn.); and John Murphy (D.-N. Y.).

The AMA's NHI plan builds on the structure of the present system of employer-employee group health insurance plans, mandating each employer to provide comprehensive and catastrophic benefit coverage with the employer picking up at least 65 percent of the cost. Employees would not be compelled to participate. The self-employed as well as the non-employed could purchase qualified private health insurance, through pools if needed, at a cost not more than 125 percent of the cost of group plans. They would have all or part of the premium paid for by the federal government depending upon their income tax liability.

Small businesses that find the mandated plan an added financial burden would receive federal assistance.

Medicare beneficiaries could purchase supplemental insurance to bring Medicare benefits to a par with those offered elsewhere, with the government assisting people with limited resources. Medicaid would be eliminated under the program.

After a certain level of co-insurance is reached, depending upon income, insurance covers all remaining costs as a complete protection against catastrophic costs.

The co-insurance factor would deprive no one of needed care, sponsors said. The absolute maximum that any individual would have to pay

would be \$1,500; the absolute maximum for any family would be \$2,000 in any given year.

Fulton, a member of the House Ways and Means Committee, told the House that the bill "represents the evolution of the doctors' thinking on this complex subject; and it demonstrates that the continuing process of discussion and debate has influenced the doctors as, indeed it has influenced the thinking of Congress."

"We must build on the structure of group health insurance which is today providing sound basic coverage for a vast majority of Americans at no cost to the government," said Fulton. "It is easier to remedy whatever deficiencies exist in this mechanism than to junk it in favor of a new and elaborate government structure that would have to be created from scratch . . . it would also be considerably less traumatic for Americans to remain with a familiar system . . ."

Rep. John Duncan, third ranking Republican on the House Ways and Means Committee, said in a House speech that "the AMA plan does the best job to date in identifying the line between national bankruptcy and national parsimony in expenditures for national health insurance.

"The doctors' plan provides federal assistance on the basis of need. The most help goes to those who need it most. The least help goes to those who need it the least."

He said the Comprehensive Health Care Insurance Act removes the fear of catastrophic illness that plagues even well-off Americans and provides sweeping regular benefits, including 365 days of inpatient hospital care, 100 days of skilled nursing care, full dental care for children, home health benefits and many other services including psychiatric treatment and well-baby care.

Rep. Tim Lee Carter, a physician-member of Congress and ranking minority member of the House Health Subcommittee, said the bill "retains a large measure of pluralism in the administration and financing . . . and it is precisely this pluralism — the creativity and sensi-

tivity of the private sector, supplemented only where necessary by government — that has made the quality of American medicine hands-down the finest in the world.”

Dr. Carter pointed to the cost control mechanism of “co-insurance” (except for the poor) in the physicians’ plan. “There is incontestable evidence that any health care system without some regulatory control is soon bogged down by the ‘worried-well,’” he said.

Rep. John Murphy of New York, a member of the Commerce Committee, said organized medicine’s plan “does about what the federal government can afford to do at this particular time. It will not be legislation that overpromises and underperforms.”

The lawmaker denied “that any form of national health insurance is preferable to what we have. The right kind of program can accomplish much; the wrong kind could actually do harm.”

“The need is immediate,” declared Murphy. “Because the program utilizes the existing structure of the private insurance industry, there can be a fast start-up. There will be a minimum of administrative costs and bureaucratic delays.

“This is the place to start: a sound foundation of comprehensive health services, available to all Americans, and at a reasonable cost.”

* * * *

The AMA has told Congress that federal legislative remedies for the professional liability crisis could create a worse situation and in some cases result in even higher liability costs.

Testifying before the Senate Health Subcommittee headed by Sen. Edward Kennedy (D.-Mass.) as it opened hearings on the liability issue, AMA President Malcolm C. Todd, M.D., declared “it is far wiser for states to enact varied innovative legislative responses to the problem than to have an untested and unproved scheme enacted on a nationwide basis by the federal government, particularly where such proposals contain elaborate provisions for federal government regulation of the practice of medicine.”

Dr. Todd, accompanied by Richard E. Palmer, M.D., Chairman of the AMA Board of Trustees, said there’s no question a crisis exists in medical liability insurance. “The complexity of the problem, and its varied causes convince us, however, there is no single solution, be it arbitration,

‘no-fault,’ or anything else.”

Many states are acting on the liability problem, Dr. Todd pointed out. “Perhaps the eventual solution in most states will be a synthesis of various approaches. . . . Enactment of a federal program would eliminate the state’s initiative and would establish a program that would fail to recognize individual state problems,” he said.

One of the bills before the Subcommittee proposes compulsory arbitration tied to licensure and relicensure of physicians, review of all physicians’ services by Professional Standards Review Organizations (PSRO’s), acceptance of federal fee schedules under Medicare and required consultation before surgery. These restrictions “have no demonstrated relationship to the problems of medical liability or liability insurance,” Dr. Todd told the Subcommittee. “Rather the crises-need for remedies for these problems is being used as a device for imposition of further government meddling in the practice of medicine.”

A somewhat surprised Sen. Edward Kennedy (D.-Mass.) has encountered a wall of opposition from the major groups involved in the medical liability crisis with respect to federal intervention as a solution. The Administration has joined the AMA, the American Hospital Association, and the American Trial Lawyers Association in urging that the federal government keep out of the liability picture at least for the time being.

Most of the suggested remedies so far carry bad news for some group, either increased governmental controls on physicians and hospitals, loss of fee income for lawyers, or some undermining of medical consumers’ right to sue. In addition, insurance has always been very much a state prerogative in this country and federal legislation that infringes on states’ powers over insurance is always difficult to enact.

In the absence of a clear and unequivocal call from some segment of the affected public and professions, the likelihood of Congressional action this year on a broad liability bill appears remote. An undercurrent of opinion on Capitol Hill seems to be that the problem should be faced when a national health insurance program is considered.

* * * *

An Administration proposal to tie physician reimbursement for Medicare patients to levels related to but under "cost-of-living" indexes has drawn an angry protest from the AMA.

The new payment plan would carry out a provision of the Social Security Amendments law passed in 1972 which tied physicians' reimbursement under Medicare to economic factors geared to a cost-of-living index. Health, Education and Welfare Department Secretary Caspar Weinberger said the proposed regulations were drafted "so that Medicare costs will follow rather than lead inflationary trends."

Richard E. Palmer, M.D., Chairman of the AMA Board of Trustees, charged that there is an "appalling lack of the most elementary and essential information" about the proposal, which he termed "another federal attempt to cop out on previous commitments to the elderly and to shift most of the burden onto the individual patient and the physician."

Thirty days were given by HEW for interested parties to comment on the proposed regulation published in the Federal Register on April 14.

"We have been given just 30 days to respond to a whole new set of HEW regulations to put a lid on Medicare reimbursement rates," Dr. Palmer said. "Since the proposed regulations relate to a law passed over two years ago, we think we are entitled to a minimum of 60 days to examine them and reply."

"Key parts of the regulations are not even available. HEW has offered examples of how the new regulations might apply. But we do not know where the data comes from nor how they were developed."

"These regulations apply to no other segment of the economy. They involve price rollbacks to 1971 levels. They also seem to be designed to save Medicare expenditures without regard to the possible impact on other segments of medical cost."

* * * *

President Ford has nominated Theodore Cooper, M.D., as Assistant Secretary for Health at the HEW Department. The post is the most powerful health job in the federal government.

Dr. Cooper succeeds Charles C. Edwards, M.D., who resigned January 5. A native of Trenton, N. J., Dr. Cooper, 46, has been serving as Acting Assistant Secretary. He is a physiolo-

gist, pharmacologist and surgeon.

Ford also nominated Donald S. Frederickson, M.D., as Director of the National Institutes of Health. Dr. Frederickson, 50, replaces Robert S. Stone who resigned January 31.

Dr. Cooper has served as Chief Deputy to Dr. Edwards following a stint as head of the National Heart and Lung Institute. He is regarded as a capable administrator whose close ties to the scientific-academic community will help him.

Dr. Frederickson also served as Director of the National Heart Institute and had been a member of the NIH scientific staff since 1953. He is an authority on fat transport in the circulation and on the disease of lipid metabolism.

* * * *

A measure sponsored by the AMA to remove inequities and confusion over incentive pay bonuses for federal medical officers has been introduced in Congress.

The bill would amend the law to enable all medical officers in the uniformed services to be eligible for the special pay bonus upon entering into active duty.

The incentive pay could be reduced or adjusted to reflect amounts that the federal government had already paid or any benefits which have already been received by medical officers prior to the commencement of their active duty. Introduced by Rep. Thomas Downey (D.-N. Y.), the bill applies to the military and the Public Health Service Commissioned Corps. There have been many complaints that the bonus provisions have led to instances where junior men were receiving higher pay than veteran superiors.

* * * *

Congressional plans for quick action on health insurance for the unemployed have bogged down in a jurisdictional argument between the House Commerce and Ways and Means Committees. Both committees have bills — neither of which call for Social Security involvement — but rival committee members seem determined to block each others bill from the floor.

The significance of the rivalry between the two bills has been expressed by Ways and Means member Representative James Hastings (R.-N. Y.) who says the outcome "... will decide in this House who is going to write national health insurance legislation" for everybody.

* * * *

Outline of Generic Substitution Act

The Arkansas Medical Society attorney, Mr. Eugene Warren, provides the following outline of the provisions of Act 436 of 1975, the Generic Substitution Act:

Within 120 days after the effective date of Act 436 the State Health Officer must establish a Non-Equivalent Drug Product List of those drug products which he has determined are not equivalent in quality and effectiveness. A copy of such list must be mailed to each registered pharmacist and licensed physician in the State of Arkansas. A legislative act which does not contain an emergency clause takes effect 90 days after the legislature adjourns or after it recesses if the recess is longer than 90 days.

After the publication of the list a pharmacist who receives a prescription for a brand or trade name drug product *may* dispense to the patient a lower cost generically equivalent drug product unless the generically equivalent drug appears on the Non-Equivalent Drug Product list or unless:

(a) The prescriber in the case of a written prescription has indicated in his own handwriting by name or initial that no substitution shall be made, or

(b) The prescriber in the case of an oral prescription expressly states orally that the prescription is to be dispensed as communicated, or

(c) The patient indicates that the prescription is to be dispensed as written or orally communicated.

(d) If the patient agrees the pharmacist may dispense a higher cost generically equivalent drug.

In the absence of one of the above exceptions the total costs for the substituted generically equivalent drug product shall not exceed the amount usually charged by the pharmacist under comparable circumstances for that drug product or for the dispensing of that drug product.

The Non-Equivalent Drug Product List may be changed by the State Health Officer by additions or deletions but only through compliance with the Arkansas Administrative Procedures Act. This Act requires that there must be a twenty days notice and a public hearing prior to the adoption, amendment or repeal of any

rule or regulation by an administrative agency.

The Act also authorizes the pharmacist to affix a label to the container in which the drug is dispensed which shows:

- (a) The pharmacy name, address and telephone number
- (b) The date of dispensing
- (c) The serial number of the prescription
- (d) The name of the patient
- (e) The name of the prescribing practitioner
- (f) The trade name of the medication, if any, and/or the generic name of the medication and identity of the manufacturer (if the medication appears generically listed "on the drug formulary list established by this Act")
- (g) The strength per unit dose of the medication
- (h) The quantity of the medication
- (i) Directions for use.

The prescribing practitioner may, in an appropriate manner indicate on the prescription or orally to the pharmacist that the name, manufacturer and strength of the medication shall be omitted from the label.

If the pharmacist dispenses a generically equivalent product the patient must (the Act says "shall") be informed of the substitution prior to dispensing or the label shall appropriately indicate substitution.

The labeling provisions do not apply to drugs dispensed to inpatients in hospitals.

The Act provides that a pharmacist *may* display within the confines of the pharmacy a list of available drug products, other than controlled substances, with the current charges for the drug product and for dispensing said drugs in specified quantities. This is entirely optional with the pharmacist. Upon request the pharmacy *may* make such lists "available to its customers and other members of the public."

Violation of the provisions of the Act by a pharmacist shall subject the pharmacist to the disciplinary action of the Arkansas State Board of Pharmacy (including revocation of his license).

The Pharmacy Board is given the power and authority to enact or adopt reasonable regulations to carry out the purposes and intents of Sections 4 (Labeling provision), Section 5 (Price posting) and Section 6 (Disciplinary proceedings).



PERSONAL AND NEWS ITEMS

Dr. Darnall to Head Lung Group

Dr. Harley Darnall of Fort Smith was elected president of the Arkansas Lung Association at the organization's 68th annual meeting held in Little Rock recently.

Dr. Saltzman Receives Service Award

The Arkansas Public Health Association has selected Dr. Ben N. Saltzman of Little Rock as the recipient of that organization's Tom T. Ross Award. The award is the highest honor given by the Association for outstanding contributions to the state's public health programs.

Dr. Hudson Honored

Dr. William A. Hudson of Jasper was presented the Distinguished Service Award by the Arkansas Lung Association at the organization's annual meeting recently. The award was presented for only the second time in the 68-year history of the Association.

Dr. Verser Addresses Chamber of Commerce

Dr. Joe Verser of Harrisburg recently spoke to the Lepanto Chamber of Commerce on the subject of the state's need for more physicians, particularly general practitioners.

Dr. Alexander is Distinguished Alumni

Dr. John E. Alexander of Magnolia was awarded the Distinguished Alumni Award at the commencement exercises for Southern State College recently.

Dr. Smith Elected

Dr. Purcell Smith, Jr., of Little Rock, was installed as president of the Arkansas Caduceus Club on June 14th during annual alumni weekend festivities of the Club. Dr. Smith succeeds Dr. Asa Crow of Paragould.

Physicians Honored

Dr. Roger Bost of Little Rock and Dr. Neil Crow of Fort Smith are recipients of distinguished service awards from the University of Arkansas School of Medicine. Dr. Thomas Bruce, Medical School Dean, presented the awards at a banquet on June 13th.

Dr. Bost's citation lauds his efforts which "have resulted in significant benefits to the health and welfare of the people of the state" and "dramatically increased the effectiveness and reduced the costs of existing health programs."

Dr. Crow was cited for his "devoted service and genuine leadership" as a member of the voluntary faculty, officer in the Caduceus Club, and his strong support of the Area Health Education Center at Fort Smith.



OBITUARY

Dr. Robert Ross Kirkpatrick

Dr. Robert R. Kirkpatrick of Texarkana died April 23, 1975, at the age of eighty-six. He was born November 2, 1888, in LaCrosse, Kansas.

Dr. Kirkpatrick was a 1916 graduate of the Loyola University School of Medicine in Maywood, Illinois. He was a veteran of World War I. He was a member of the Miller County Medical Society, Arkansas Medical Society, the Society's Fifty Year Club, American Medical Association, and Southern Medical Association. He was also a Mason and a Shriner.

Dr. Kirkpatrick is survived by his wife, La-zetta, a daughter, one brother, four sisters, and four grandchildren.

THINGS TO COME

Physicians' Trauma Seminar

The Arkansas Committee on Trauma and the Arkansas Trauma Research Society will present a Physicians' Seminar June 27-28, 1975, at Jonesboro, Arkansas. The registration fee is \$35.00 and includes dinner and cocktails Friday night at the Ramada Inn in Jonesboro. For detailed information contact: Arkansas Trauma Research Society, 522 South 16th, Fort Smith, Arkansas 72901.

The Seminar is accredited by the American Academy of Family Physicians and the American College of Emergency Physicians for 12 hours prescribed credit.

A New Look at the Hypertensions

The American College of Physicians will present "A New Look at the Hypertensions," October 2-4, 1975, at the University of Oklahoma Health Sciences Center in Oklahoma City. Edward D. Frohlich, M.D., F.A.C.P., will be Course Director.

Registration fees for A.C.P. members and F.A.C.P. is \$100; non-members \$150; and A.C.P. Associates \$50. Registration and requests for information are to be directed to: Registrar, American College of Physicians, 4200 Pine Street, Philadelphia, Pennsylvania 19101.

Note: Tickets to the University of Oklahoma vs. University of Colorado football game on October 4th will be available on a first-come first-serve basis to the first 100 registrants.

American Cancer Society Meetings

The American Cancer Society National Conference on Radiation Oncology will be held May 27-29, 1976, at the San Francisco Hilton and Tower, San Francisco, California.

The American Cancer Society/National Cancer Institute National Conference on Cancer Research and Clinical Investigation (replacing the Eighth National Cancer Conference) will be held September 18-20, 1976, at the Regency Hyatt Atlanta Hotel, Atlanta, Georgia.

For further information write to: Sidney L. Arje, M.D., American Cancer Society, 219 East 42nd Street, New York, New York 10017.

CLINICAL APPLICATION OF INTRA-AORTIC BALLOON PUMP

Sponsor: University of Miami School of Medicine, Division of Thoracic and Cardiovascular Surgery and Cardiology.

Dates: November 14-15, 1975. (This course precedes the Annual Meeting of the Southern Medical Association to be held on Miami Beach, November 16-20, 1975, and the Annual Meeting of the American Heart Association held in Anaheim, California, November 17-20, 1975.)

Meeting Site: Americana Hotel, 9701 Collins Avenue, Bal Harbour, Florida.

Course Description: The course is designed to provide cardiologists, cardiac surgeons and allied professionals with information on the newest developments in the area of treatment of shock and heart failure. Practical aspects of intra-aortic balloon pump and intra-aortic balloon pump in cardiogenic shock and cardiac surgery patients will be stressed.

Fee: \$140 (physicians in practice); \$75 (physicians in training, nurses and technicians.)

For Information: Division of Continuing Medical Education, University of Miami School of Medicine, P. O. Box 520875 Biscayne Annex, Miami, Florida 33152. Telephone (305) 547-6716.

PRACTICAL MODERN NEUROLOGY

Sponsor: Department of Neurology, University of Miami School of Medicine.

Title of Program: 3rd Annual Course in Practical Modern Neurology.

Dates: February 2-6, 1976.

Meeting Site: Hotel Fontainebleau, Miami Beach, Florida.

Description: This course is designed to provide practical and useful approaches to the management of common neurological problems. It is directed primarily to physicians who wish to improve their capability in handling patients with neurological disease, specifically internists, generalists, psychiatrists, orthopaedic surgeons, and ophthalmologists. The course will consist of a minimum of 28 hours of lectures, demonstrations, and discussions. The faculty will be chosen for their demonstrated expertise in the areas of their presentations.

For Information and Registration Information: Division of Continuing Medical Education, University of Miami School of Medicine, P. O. Box 520875 Biscayne Annex, Miami, Fla. 33152. Telephone (305) 547-6716.

August, 1975

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Vol. 72 No. 3

FORT SMITH, ARKANSAS

ARKANSAS MEDICAL SOCIETY
CENTENNIAL YEAR

BECOTIN®
Vitamin B Complex

BECOTIN® with VITAMIN C
Vitamin B Complex with Vitamin C

BECOTIN®-T
Vitamin B Complex with Vitamin C, Therapeutic

MI-CEBRIN®
Vitamins-Minerals

MI-CEBRIN T®
Vitamin-Minerals Therapeutic

AND A WIDE VARIETY OF OTHER PHARMACEUTICALS



DISTA PRODUCTS COMPANY
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

Both often



Predominant
psychoneurotic
anxiety

Associated
depressive
symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent

in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium[®] (diazepam) 2-mg, 5-mg, 10-mg tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

THE JOURNAL OF THE

Arkansas

MEDICAL SOCIETY

Owned by
THE ARKANSAS MEDICAL SOCIETY
And Published Under Direction of the Council

ALFRED KAHN, JR., M.D., Editor
1300 West Sixth Street Little Rock, Arkansas

MR. PAUL C. SCHAEFER, Business Manager
214 North 12th Street Fort Smith, Arkansas

LITTLE ROCK BUSINESS OFFICE
114 E. Second St. Little Rock, Arkansas

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY

T. E. TOWNSEND, President	Pine Bluff
A. S. KOENIG, JR., President-Elect	Fort Smith
ASA A. CROW, First Vice President	Paragould
MAHLON O. MARIS, Second Vice President	Harrison
DONALD L. DUNCAN, Third Vice President	Texarkana
ELVIN SHUFFIELD, Secretary	Little Rock
KENNETH R. DUZAN, Treasurer	El Dorado
AMAIL CHUDY, Speaker,	
House of Delegates	North Little Rock
CHARLES F. WILKINS, JR., Vice Speaker,	
House of Delegates	Russellville
ALFRED KAHN, JR., Journal Editor	Little Rock
C. C. LONG, Delegate to AMA	Fort Smith
PURCELL SMITH, Delegate to AMA	Little Rock
JOE VERSER, Alternate Delegate to AMA	Harrisburg
T. E. TOWNSEND, Alternate Delegate to AMA	Pine Bluff
MR. PAUL C. SCHAEFER, Executive Vice President,	
P. O. Box 1208	Fort Smith

COUNCILORS

First District	JOHN B. KIRKLEY	Jonesboro
	*ELDON FAIRLEY	Osceola
Second District	JOHN E. BELL	Searcy
	*PAUL GRAY	Batesville
Third District	*L. J. P. BELL	Helena
	FRED C. INMAN, JR.	Carlisle
Fourth District	JOHN P. BURGE	Lake Village
	*RAYMOND IRWIN	Pine Bluff
Fifth District	*J. B. JAMESON, JR.	Camden
	JOHN H. MOORE	El Dorado
Sixth District	*C. LYNN HARRIS	Hope
	A. E. ANDREWS	Texarkana
Seventh District	*ROBERT F. McCRARY	Hot Springs
	CURTIS CLARK	Sheridan
Eighth District	WILLIAM S. ORR, JR.	Little Rock
	*W. PAYTON KOLB	Little Rock
Ninth District	*HENRY V. KIRBY	Harrison
	MORRIS M. HENRY	Fayetteville
Tenth District	KEMAL KUTAIT	Fort Smith
	*C. C. LONG	Fort Smith
*Senior Councilor		

The Advertising policy of this JOURNAL is governed by the PRINCIPLES OF ADVERTISING of the State Medical Journal Advertising Bureau, Inc., by the Advertising Committee of the Bureau and by the Council of the Arkansas Medical Society.

EXCLUSIVE PUBLICATION—Articles are accepted for publication on the condition that they are contributed solely to this JOURNAL.

COPYRIGHT 1975—By the JOURNAL of the Arkansas Medical Society.

NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

SCIENTIFIC ARTICLES

Management of Juvenile Diabetes Mellitus	111
<i>Carol Chaney, M.D.</i> <i>and M. Joycelyn Elders, M.D.</i>	
Multiphasic Screening in an Indigent Population	128
<i>Paul Rountree, M.D.</i> <i>and Thomas S. Frasier</i>	
B-Mode Ultrasonic Scanning	130
<i>John C. Holder, M.D.</i>	

FEATURES

EKG of the Month:	137
<i>Robert T. Bulloch, M.D.</i>	
Office Orthopaedics: "Basics of Physical Therapy"	140
<i>Leighton Millard, M.D.</i>	
Arkansas Public Health at a Glance, "Safety Education as Preventive Medicine"	143
<i>Miss Norma Clark</i>	
Editorial: "Hormones and Target Tissues"	144
<i>Alfred Kahn, Jr., M.D.</i>	
Obituary	145
Medicine in the News	146
Things to Come	149
Personal and News Items	152
New Members	153

Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72901. Published monthly under direction of the Council, Arkansas Medical Society, Volume 72, No. 3. Subscription \$2.00 a year. Single copies 50 cents. Entered as second class matter, May 1, 1955, in the post office at Little Rock, Arkansas, under the Act of Congress of March, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 1, 1918. Second-class postage paid at Little Rock, Arkansas.

Management of Juvenile Diabetes Mellitus

Carol Chaney, M.D.* and M. Joycelyn Elders, M.D.**

INTRODUCTION

Juvenile diabetes mellitus makes up only 5% of all patients with diabetes mellitus. However, it is the most common endocrine disease of childhood, occurring in approximately one per 1,000-2,000 school age children.¹ It is estimated that there are 100,000 to 150,000 children with diabetes in the United States. This chronic metabolic disorder is due to an absolute or relative deficiency of endogenous insulin.² Insulin is an anabolic hormone synthesized by the beta cells of the pancreas as a single chain polypeptide called proinsulin.³ Proinsulin is converted to insulin by removal of the C-polypeptide leaving the double chain polypeptide hormone, which has a molecular weight of 5,800.⁴ The daily secretion of insulin by the pancreas in an adult is on the order of 50 units, the total pancreatic store being about 5 times this amount.⁵ Insulin, being a major anabolic hormone, has an effect on carbohydrates, protein, and lipid metabolism. The primary site of insulin action is not known, however, the majority of evidence favors the cell membrane as the primary site of action.⁶ In liver, insulin has been shown to exert its major metabolic effect by stimulating enzymes required to increase the uptake of glucose rather than altering the cell membrane transport mechanisms as it does in muscle and adipose tissue.⁶ It further inhibits intracellular processes involved in glucose production and release.⁷

In *adipose tissue*, insulin alters the cell membrane to increase its permeability to glucose, thereby increasing glucose uptake and subsequent conversion to glycerol. It also inhibits the

breakdown of fat, stimulates fatty acid synthesis, and increases fat deposition.

In *muscle*⁷ insulin increases the transport of glucose across muscle cell membranes just as in adipose tissue and increases glycogen and protein synthesis.

It is important to understand some of the basic physiologic effects of insulin for optimal management of the patient on insulin therapy. In recent years there has been some modification in our management of the patient with juvenile onset diabetes.

The purpose of this article will be to review some of the metabolic alterations seen in juvenile diabetes mellitus, the acute and chronic aspects of management and some of the complications seen with insulin therapy.

CLASSIFICATION AND DIAGNOSIS OF DIABETES MELLITUS

The American Diabetes Association has classified diabetes mellitus into four stages, as shown in Table 1. They are (1) Prediabetes, (2) Suspected diabetes, (3) Chemical or latent diabetes and (4) Overt diabetes.⁸ The earliest stage is prediabetes and the most advanced stage is overt diabetes. Progression of diabetes from one stage to the other is usually very rapid in children, however, in adults, the progression from one stage to the other may be very slow. Diagnosis of prediabetes is very difficult to make and may be suspected in the nondiabetic identical twin or in a child born to parents both of whom have diabetes. It has been shown that an abnormal or delayed response in the early plasma insulin peak following glucose loading is also characteristic of prediabetes.⁹

The diagnosis of suspected diabetes is usually made in the patient who manifests glucosuria during severe stress, such as acute illness, pregnancy, or when treated with adrenal glucocorticoids.

*Department of Pediatrics, University of Arkansas Medical Center, 4301 West Markham Street, Little Rock, Arkansas 72205.

**Associate Professor, University of Arkansas Medical Center, Professional Advisory Committee of American Diabetes Association—Arkansas Affiliate. Mailing address: 4301 West Markham Street, Little Rock, Arkansas 72205.

Studies at the University of Arkansas Medical Center were supported by USPHS grant AM 15901 and CA 13907.

MANAGEMENT OF JUVENILE DIABETES MELLITUS

Table 1
CLASSIFICATION OF DIABETES MELLITUS BY THE
AMERICAN DIABETES ASSOCIATION

	<i>Fasting Blood Sugar</i>	<i>Glucose Tolerance Test</i>	<i>Cortisone GTT</i>	<i>Insulin Response</i>
Prediabetes	Normal	Normal	Normal	+
Suspected Diabetes	Normal	Normal	Abnormal	++
		Abnormal During Stress		
Chemical or Latent	Normal or ↑	Abnormal	Not Necessary	+++
Overt Diabetes	↑	Not Necessary For Diagnosis	-----	++++

Jackson, et al¹⁰ have established criteria for the diagnosis of chemical diabetes through studies of several hundred siblings of overt diabetics. They emphasize that standardized techniques are needed in all clinics to minimize the number of factors altering the oral glucose tolerance test (OGTT). One of these factors is diet. They feel that the patient should have at least 60% of his calories derived from carbohydrates for 3 days prior to the OGTT. This may mean extra carbohydrate intake for patients on a restricted diet. Exercise also has an effect on the OGTT results. Studies have shown that exercising patients have lower blood sugar values and bedfast patients have higher values.

To perform the oral glucose tolerance test, a dose of 1.75 gm of glucose/kg of ideal body weight (maximum 100g) is used in children. A 20-40% glucose solution may be used. Either venous or capillary blood specimens may be used during the test. The fasting and 2 hour sampling times show very little difference in capillary and venous specimens, while at one hour there is usually a 10 mg/100 ml difference. The advantage of obtaining capillary specimens instead of venous ones is the avoidance of multiple venipunctures in children.

Blood glucose values obtained by Jackson, et al¹⁰ in a study of 200 normal children during a standard OGTT are shown in Table 2. This table may be useful in interpreting tests on individual children. Their criteria for labeling an OGTT curve abnormal in an individual child is that two or more values at the fasting, 1 hour, 2 hours, or 3 hours time be outside the 97th or 3rd percentile.¹⁰ The establishment of a diagnosis of chemical diabetes is made only after a second abnormal OGTT administered 2-3 months after the first one is obtained.

They have established three criteria for making the diagnosis of chemical diabetes using the OGTT. They are as follows:

Criterion I—Definite chemical diabetes: (1) Three blood sugar values at or above the 97th percentile at the first, second and third hour; (2) two of the values at or above the 97th percentile at the first and second hour above the 90th percentile and/or a value below the 10th percentile at the third hour.

Criterion II—Probably chemical diabetes (highly suspect): (1) Two blood sugar values at or above the 90th percentile or below the 10th percentile; (2) a value at the third hour

Table 2
RESULTS OF OGTT IN 200 NORMAL CHILDREN

<i>Time</i>	<i>Fasting</i>	<i>1/2 Hr.</i>	<i>1 Hr.</i>	<i>2 Hr.</i>	<i>3 Hr.</i>
PERCENTILE					
97th	111	183	172	140	126
90th	99	172	152	126	114
84th	95	164	137	119	103
50th	83	131	110	100	82
16th	67	107	86	84	64
10th	64	98	78	78	60
3rd	56	80	66	64	48

Modified from Jackson, R. L., and Guthrie, R. A.: The Child with Diabetes. Mo. Med. 69:351, 1972.

below the third percentile (other values within normal range).

Criterion III—Possible chemical diabetes (suspect): (1) Two or three blood sugar values at or above the 84th percentile at the first, second, or third hour; (2) two blood sugar values at the 16th percentile at the third hour.

Follow-up by these investigators on several children with tests already in a late stage of chemical diabetes, show their disease usually progressed to overt, insulin-dependent diabetes within a period of months. Other children with less abnormal tests were seen to progress over a period of months or years to overt, insulin-dependent diabetes.

In a child presenting with glucosuria, hyperglycemia and acetonuria, no further tests are necessary to establish the diagnosis of diabetes mellitus. Renal glucosuria, salicylate intoxication and the renal tubular acidosis may cause glucosuria but in these patients the blood sugar is normal. Hyperglycemia and glucosuria may be occasionally seen in children following severe stress such as head trauma, febrile seizures, or drug intoxications.¹¹

The United States Public Health Service has established a guideline for interpretation of the oral glucose tolerance test using 1.75 mg of glucose per kilogram of body weight (based on a point system).¹¹ This system is as follows:

Fasting	110 mg%	= 1 point
1 hour	170 mg%	= ½ point
2 hour	120 mg%	= ½ point
3 hour	110 mg%	= 1 point

A total of two points is considered diagnostic of diabetes and 1½ points is considered suspected diabetes and should be repeated in 2-3 months.¹²

COURSE OF JUVENILE DIABETES MELLITUS

The natural history of insulin-dependent diabetes mellitus has been described by various authors.^{13, 14, 15, 16} A modification of the natural course of insulin-dependent diabetes mellitus based on insulin requirements as described by Hallas-Muller¹⁷ is depicted in Figure 1. Patients are usually normal at birth—that is they have no carbohydrate intolerance and they synthesize enough insulin to handle their usual carbohydrate load. The clinical expression is extremely variable in terms of presenting symptoms, age of onset, rate of progression, response to therapy

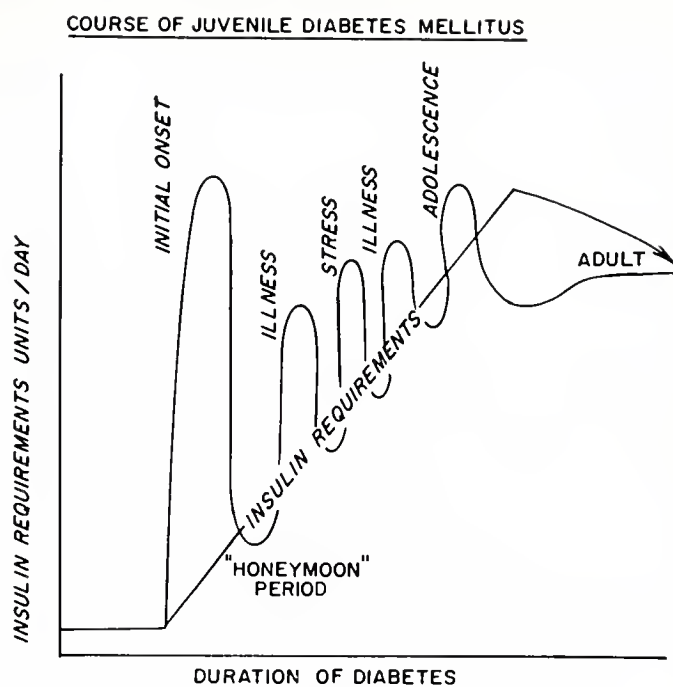


Figure 1.

and associated medical problems. The most frequent ages for the onset of diabetes mellitus in children has been said to be 3, 6, and 12 years, however we have been unable to detect a definite trend in the age of onset from 1-15 years. The disease proceeds through all four clinical stages, slowly at first but once the cardinal signs and symptoms are manifest, the untreated disease progresses very rapidly into overt diabetes. Children may pass from an initial stage of no insulin requirements to one of complete insulin-dependence in only a few hours or days. The rate of movement from one state to another is unpredictable, but one should be aware that children progress through the same stages as the adult, but at a more rapid rate.¹⁸ Following the onset of overt diabetes and the initial regulation with insulin most children usually experience a decrease in their insulin maintenance requirement. This period of low insulin requirement lasts for variable lengths of time and the duration cannot be predicted. It is important to remember this partial remission does occur so that one may expect to decrease the insulin dosage accordingly. Illness and emotional stress periodically cause a need for increased insulin. In about ten percent of patients admitted after an initial episode of diabetic ketoacidosis, no insulin at all may be required. This has been called the "honeymoon" period of diabetes.¹⁹ This occurs without relation to type or even adequacy of therapy. These patients usually require insulin again, however, and in two or three years they

become insulin-dependent diabetics. Another period of marked change in insulin requirement is during the adolescent growth spurt. An increase in daily insulin requirement is usually seen at this time on the order of approximately 25%. The usual requirements for adolescents are 0.9-1.2 units/kg.²⁰ This dose usually declines after attainment of full growth and maturation. These changes are depicted in Figure 1.

Other factors altering insulin requirements are: severe infections, insufficient exercise, or severe emotional stress. We usually continue insulin therapy in all juvenile diabetics regardless of the degree of remission after initiation of treatment of the initial episode. This serves to underscore the fact that diabetes is forever, and to avoid the psychological impact of a later need for insulin therapy. It is often interpreted by the patient as a worsening of his state of health.

The early use of insulin at times in doses as little as two units commit the patient to a life-long schedule of insulin, food intake, and physical activity which optimized his potential for a normal life. By continuing the use of insulin the likelihood of developing insulin allergy or resistance is stated to be reduced.²¹

MAJOR ACUTE BIOCHEMICAL CONSEQUENCES OF INSULIN DEFICIENCY

The major biochemical and clinical manifestation of severe insulin deficiency are: (1) volume depletion, both extracellular and intracellular, (2) osmotic alterations between volume compartments, (3) acid-base disequilibrium with acidosis and buffer depletion and (4) metabolic starvation manifest by (a) decreased synthesis of protein, lipid, and glycogen, (b) inhibition of peripheral glucose uptake, (c) reversal of the glycolytic pathway with active hepatic production of glucose from amino acids despite hyperglycemia, (d) active mobilization of fats from adipose tissue leading to marked elevations in the concentration of total lipids, cholesterol, triglycerides and free fatty acids in plasma and (e) development of ketoacidosis.¹¹ These are summarized in Table 3.

Insulin deficiency causes decreased peripheral uptake and utilization of sugar in the insulin sensitive tissues, muscle, liver, and adipose tissue.²² The liver takes up approximately 70% of an ingested glucose load.²³ Insulin deficiency leads to decreased glycogen synthesis and in-

Table 3
MAJOR MANIFESTATIONS OF
SEVERE INSULIN DEFICIENCY

<i>Manifestations</i>	<i>Etiology or Cause</i>
1. Hyperglycemia and Glucosuria	1. Inability of glucose to enter cells
2. Polyuria	2. Osmotic effect of glucose on kidney
3. Increased plasma lipids and decreased adipose tissue	3. Breakdown of body fat for use as fuel
4. Muscle weakness and wasting	4. Loss of protein due to Gluconeogenesis
5. Increased blood urea	5. a) Excessive release of nitrogen part of amino acids b) Decreased GFR c) Dehydration
6. Decreased body potassium	6. Loss of potassium from cells with protein
7. Decreased body sodium	7. Osmotic diuresis with decreased time for renal tubules to reabsorb sodium
8. Ketosis and Ketonuria	8. 1) Formation of ketone bodies in the liver faster than can be removed 2) Decreased mechanism of dispensal of ketone bodes
9. Acidosis, low pH and low bicarbonate	9. Increased free hydrogen ion production by the strong organic acids — acetoacetic and betarydroxy butyric
10. Air hunger	10. Effect of acidosis on the respiratory center

creased gluconeogenesis, this plus an increased intake of carbohydrates, results in hyperglycemia, which may vary from 150-2000 mg glucose/100 mg. Elevation of the blood sugar causes the effective osmotic pressure of the extracellular fluid to be increased and a cellular dehydration occurs as water moves from the intracellular spaces to the extracellular compartment. In the renal tubule, the filtered glucose exceeds the reabsorptive capacity of the renal tubules (normal is about 160 mg percent), resulting in glucosuria.²⁴ The hyperglycemia and glucosuria causes an osmotic diuresis with an obligatory water and electrolyte loss. Because of the large volume of water loss in the urine, patients develop polyuria and polydipsia. Often the first presenting symptom in the young child may be bedwetting. Children are also often noted to have increased appetite or polyphagia, which is due to decreased intracellular glucose concen-

trations and marked increased loss of glucose in the urine.

Polydipsia, polyuria, and polyphagia are the classical symptoms usually associated with diabetes mellitus, but in young children these symptoms may occur with marked rapidity, i.e. hours to days instead of weeks to months as is seen in the adult. If these symptoms are allowed to progress patients will begin to catabolize proteins and fats with increased urea and ketoacids production. The urea and organic acids are excreted with cations which promote further loss of water and electrolytes, with a resultant decrease in body weight, dehydration, and acidosis.

Insulin deprivation in adipose tissue results in an increased breakdown of fat stores (lipolysis) and decreased fat synthesis. Free fatty acids are transported to the liver where they are degraded to organic acids.²⁵ The organic acids cannot be degraded through the TCA cycle and therefore are accumulated in the plasma as acetoacetic and betahydroxybutyric acid. Acetoacetic acid is converted to acetone which can be smelled on the breath. Early, these organic acids can be excreted in the urine combined with the cations, sodium, potassium, magnesium, and calcium. Therefore, children are often seen with ketones in the urine, but none in the blood. However, if allowed to progress, the production of these organic acids will exceed the body's ability to catabolize them, they will ultimately deplete the systemic buffering mechanisms and cause metabolic ketoacidosis and coma. Coma is thought to be due to multiple factors including acidosis, hyperosmolality, cerebral dehydration and diminished cerebral oxygen utilization.²⁶

THERAPY

After a diagnosis of diabetes mellitus has been established in children, they are usually started on therapy. Since there has been little or no success with the oral hypoglycemic agents, or diet alone, the management is usually dependent on insulin. Hospitalization is preferred for the initial treatment of juvenile diabetes. This is true even though only 10-20 percent of our patients present in severe ketoacidosis and coma. Mild ketoacidosis occurs in another 20-40 percent and the remainder are referred by their physicians because of acute symptoms, glucosuria and hyperglycemia. Hospitalization makes the determination of the maintenance insulin re-

quirement and patient and parent education easier and more effective.

ACUTE MANAGEMENT OF DIABETIC KETOACIDOSIS

The acute management of diabetes mellitus is primarily related to correcting the acute biochemical and clinical manifestations, as a result of insulin deficiency.^{27,28} A brief outline of the primary aims of initial therapy, calculations of fluid, electrolyte, and insulin requirements are shown in Tables 4 & 5.

The initial dose of insulin is usually given after the hydrating solution has been started. The recommended dose to use is much less than we have classically used in the management of this condition in the past because of the severe complications of cerebral edema. Several investigators are now recommending the dose of insulin for ketoacidosis to be 0.1 μ /kg immediately followed by 0.1 μ /kg/hr by intravenous drip. This means that you can calculate the amount of I.V. fluid you need to give per hour, and add 0.1 μ /kg body weight of insulin to the intravenous fluid, use a pediatric volutrol and dropper and run the fluid at a rather constant rate. If a more rapid fall in blood sugar is desired you may increase the rate of infusion. This dose of insulin may be continued until the patient is out of ketosis. If the circulation is severely impaired subcutaneous insulin will not be picked up until perfusion is adequate. It

Table 4

MANAGEMENT OF DIABETIC KETOACIDOSIS

Acute Problem

1. Hyperglycemia, Glucosuria
2. Dehydration and loss of electrolytes both extracellular and intracellular with azotemia
3. Increased lipid mobilization
Ketonuria
4. Metabolic acidosis with buffer depletion and hyperuricemia

AIMS OF INITIAL THERAPY:

1. Correct shock, Acidosis and Dehydration
2. Decrease Glucosuria and Fat Mobilization
3. Treatment of Underlying Infection
4. Oral Feedings as Quickly as Possible

CALCULATION OF FLUID AND ELECTROLYTE REQUIREMENT

	Water cc/kg	Sodium Millequivalents/kg	Potassium Millequivalents/kg	Chloride Millequivalents/kg
Deficits	100	8-10	6-10	6
Maintenance	100-3x	3	3	2-3
Total	150-200	11-13	9-13	8-10

x = Age in years

Table 5
MANAGEMENT OF DIABETIC KETOACIDOSIS
INSULIN
(Fast Acting)

First dose—5.0 units or 0.1 unit/kg body weight intravenously stat followed by 0.1/kg/hr to run in first bottle of I.V. fluid

Repeated doses—0.1 μ /kg body weight/hour when blood sugar \downarrow below 300 mg% a glucose containing solution until patient is out of ketosis

FLUIDS AND ELECTROLYTES

Initial infusion to establish urine flow and improve circulation—20-25 cc/kg of Isotonic saline over 45-60 minutes

2 hours-6 hours—1/2 of the calculated maintenance and deficit water and electrolyte requirement for first 24 hour period. May give fluid as Electrolyte-75 in 5% glucose solution if glucose less than 300 mg%, if above 300 mg% use normal saline. NaHCO_3 -1.5 2.0 mEq/kg or 500 mg/kg in I.V. fluids if CO_2 less than 5 or arterial pH of less than 7.0. This will raise CO_2 about 10 mEq/liter

6 hours-12 hours—1/4 of calculated fluid and electrolytes

12 hours-18 hours—1/8 of calculated fluid and electrolyte requirements

18 hours-24 hours—Same as 12-18 or give patient P.O. fluids if tolerated

must also be remembered that the half-life of crystalline insulin given intravenously is only eighteen minutes and it causes a rapid fall in the blood sugar with a slower rate of exchange with the brain glucose because of the blood-brain barrier. This dysequilibrium between the blood and the brain glucose may cause cerebral edema. Other consequences of high dose intravenously administered insulin is ventricular fibrillations and hypoglycemia with seizures.

We usually do not give insulin intravenously unless we have intravenous fluids running. In addition there is never a need to correct the hyperglycemia prior to the correction of the ketoacidosis and dehydration. Even in hyperosmolar metabolic acidosis one must correct the dehydration along with the hyperglycemia.

LONG TERM MANAGEMENT

Successful long term management of the childhood diabetic is dependent on four major factors. These are (1) Insulin, (2) Diet, (3) Patient and Parent Education and (4) Physical Activity.²⁹ Each patient varies on these factors and must have a treatment regimen based on his own individual requirements. The insulin requirement varies with the diet, physical activity, illness, and

the emotional state of the patient and of the family. These factors must be reasonably well controlled, but the patient must learn to regulate them.

All children newly diagnosed as having diabetes mellitus are admitted to our in-patient hospital service for a period of 10-14 days. We feel this is necessary for parents and patients emotional adjustment to the diagnosis, for the initial regulation of insulin dosage, and for parent and child education about the disease, insulin, and diet. We have available to our diabetic educational program, a nurse practitioner with special expertise in the education of parents and children, a nutritionist, for the necessary diet calculations and dietary education, and physicians to coordinate these activities to fit the patient and family as well as instruction on insulin regulation.

INSULIN

All children are usually begun on insulin therapy as soon as they are diagnosed. The usual dose of insulin to be administered is calculated on a weight basis in children using 0.75 to 1.0 units per pound of body weight. The well controlled patient usually requires 0.25 to 0.5 units per pound body weight of one of the intermediate acting insulins.²⁰ Since most of the children we see are referred to us and may or may not be acutely ill, we do not know the amount of insulin they may require, therefore, we began our therapy with the short acting insulins. This approach usually prevents having patients develop severe hypoglycemia which may persist for long periods of time.

There are several kinds of insulin preparations available with different times of onset of action, duration of action, and peak times of action. These are listed in Table 6. The most likely time for hypoglycemic insulin reaction to occur is the time of that particular insulin's peak action. Hyperglycemia is most common at the end of the duration of action of a particular insulin.

A starting point for the physician in the initial insulin therapy program after treatment of the ketoacidosis or if a patient is admitted not in ketoacidosis is to place the patient on the one unit of regular insulin per pound of body weight per day. This total amount should be given sub-

Table 6
INSULIN PREPARATIONS AVAILABLE

Action	Type	(Time of Action in Hours)		
		Onset	Peak	Duration
Fast Acting	Regular or Crystalline	30 min - 1 hour	3	6
	Semilente	1-2 hours	3-5	12-18
Intermediate Acting	NPH	3-4 hours	8-12	18-24
	Lente	3-4 hours	8-12	18-24
Long Acting	(70% ultralente 30% semilente)			
	Globin	2-3 hours	4-6	12-18
	Protanine zinc (PZI)	4-6 hours	12-16	36+
	Ultralente	4-6 hours	12-16	36+

cutaneously in split doses. The total dose may initially be divided as follows:²⁹

Before breakfast	35%
Before lunch	25%
Before supper	20%
At midnight	10%

The patient should have four urine checks on double voided urine specimens per day, to be done before breakfast, lunch, supper, and at bedtime. His four injections of regular insulin should be regulated so that all four of his spot urine tests are negative, and the patient is having no hypoglycemic reactions. Perhaps a better way which we use now is to do fractional urine collections. This is done by having the patient save all his urine from one insulin injection to the next and performing a semiquantitative urine sugar estimation based on the clinitest method as described below. This will give you a good estimation of the amount of sugar spilled between injections and where you need to increase or decrease the dosage of regular insulin. When

the patient is well controlled on regular insulin, that is with only trace to 1+ glucosuria in the fractional urine specimens and no hypoglycemic episodes, the short acting regular insulin may be switched to an intermediate acting insulin (NPH or Lente). The amount of NPH initially used should be approximately 2/3 to 3/4 of the total daily dose of regular insulin that was required and may be given as one injection, before breakfast. The patient should continue to have urine checks four times daily as before and his insulin dosage regulated based on an evaluation of his urine record as shown in Table 7. If the patient is having persistent glucosuria, the NPH may be increased by 10% per day, until the mid afternoon or before snack urine check is negative. If the patient's urine checks, however, are negative at this time, his NPH dose should be decreased each morning by 10% until he has glucosuria, then he should increase his dose back to the lowest dose on which he was negative. We desire the patient to be aglucosuric at the time

Table 7
EVALUATION OF THE PATIENT RECORD
Using Four Daily Urine Checks

Common Types of Problems	Before Breakfast	Before Lunch	Before Dinner	Bedtime	Correctional Measures	
					Type of Insulin	
					Rapid	Intermediate
1	++++	++++	++++	++++		↑
2	0	++++	0	0	↑	
3	0	0	+++	+++		↑
4	++++	0	0	++++		*
5	++++	0	0	0		**

* May need to give 2 doses NPH 70:30. 70% of total dose in AM, 30% in PM.

** Add NPH at Bedtime or reduce bedtime snack.

++++ indicates glucosuria.

of the peak action of his insulin. This would be the peak action time (approximately 3-4 p.m.) if NPH is given before breakfast (7-8 a.m.). If the before lunch urine sugar is still 4+ after the supper becomes negative, regular insulin (start with 20% of the dose of NPH) may be added to the morning injection of NPH. If the early morning urine is persistently 4+, the total NPH dose may be divided into two injections—70% of the total daily dose before breakfast and 30% before supper. Diet is also an important factor in regulating diabetes. Between meal snacks given at the time of the peak action of the insulin program will help prevent hypoglycemic episodes. Also, bedtime snacks are employed to prevent nocturnal hypoglycemia.

The best guide of assessing daily control in the juvenile diabetic on a single dose of NPH insulin is the 24 hour urine glucose determination.³¹ It gives a better understanding of the state of control the diabetic is in than random fasting blood sugars or random double void urine sugar values. During the initial treatment of the patient, 24 hour fractional glucose values may be obtained three or more times a week. When the patient has been brought under fairly good control, 24 hour urines may be needed only once or twice a month.

The amount of glucosuria desired in the 24 hour urines is between 5 and 10% of the daily carbohydrate intake. Values below 5% may indicate too rigid control and hypoglycemic episodes, while values above 10% indicate poor control of hyperglycemia. An estimate of the value may be calculated as shown in Table 8.

To perform the semiquantitative urine sugar estimation based on the Clinitest method, the patient is asked to collect urine for a 24 hour period and the volume measured. A Clinitest determination is performed on an aliquot from the whole 24 hour specimen. Using the appropriate sugar values for each Clinitest reading, one can calculate the urinary sugar excretion. It should be noted that the Clinitest reading for the 24 hour fractional glucose must be at least trace to 1+ to avoid episodes of hypoglycemia. For example, if the patient has a urine volume of 1500 ml and the Clinitest value is 1+, the calculation reveals that the patient excreted 7.5 gm of glucose in that 24 hour period. This test can be used with the Clinitest method either em-

Table 8

SEMIQUANTITATIVE URINE SUGAR ESTIMATE
BASED ON CLINITEST METHOD

1. Collect urine for a 24-hour period or a known period of time.
2. Measure the volume collected.
3. Do a Clinitest determination on an aliquot from the whole urine specimen.
4. Calculate on the basis of Clinitest reading urinary sugar excretion.

$$\text{Sugar Excretion} = \frac{\text{Urine Volume (cc)}}{100} \times \text{Clinitest Sugar Values (gm/100 cc)}$$

Clinitest Reading	Sugar (%)	Sugar Value (gm/100 cc)
4+	2 or greater	2
3+	1	1
2+	0.75	0.75
1+	0.5	0.5
Trace	0.25	0.25

Example:

Urine volume = 1500 cc

Clinitest Value = 1+, sugar value 0.5 gm/100 cc

$$\frac{1500 \text{ cc}}{100} \times 0.5 \text{ gm/100 cc} = 7.5 \text{ gm} = 24 \text{ hour urine sugar excretion}$$

ploying five or two drops of urine and reading on the proper scale.³²

A simple method for estimation of the total daily carbohydrate intake is to determine the approximate number of calories the patient is consuming and if 50% of his diet is carbohydrate, then divide the total number of calories by 2. This would give the number of carbohydrate calories. To convert carbohydrate calories to grams of sugar, divide the number of carbohydrate calories by 4 and this will give you the grams of carbohydrates.³³ We usually add an additional 10% to this to allow for the protein converted to glucose via gluconeogenesis. An example of this calculation is as shown below:

Assume this is a 12-year-old on a 2500 calorie diet:

$$\frac{1}{2} \text{ of the calories are carbohydrates} \\ \frac{2500}{2} = 1250 \text{ carbohydrate calories}$$

$$\text{grams of carbohydrate} = \frac{1250}{4} = 312 \text{ grams of CHO}$$

Add 10% for CHO obtained from protein—31.2

Therefore 312 + 31.2 = 343.2 gms of carbohydrate

10% of this would be 34 gms/day

5% or good control would be 17 gms or less/day

RESPONSE TO NPH AND LENTE INSULIN

When insulin-dependent patients present problems of control, the classification of the patient's response to a single dose of NPH or Lente insulin may aid the physician in making a choice of insulin, dosages, and the timing of its administration.³⁴

Patients with diabetes frequently differ or change in their response to a single dose of intermediate acting insulins such as NPH or Lente. The types of responses that have been observed for a single day injection of NPH or Lente insulin have been characterized by Hallas-Moller as having an A, B, or C curve.¹⁷ These curves are shown to Figure 2, 3, & 4. The response of a patient who remains normoglycemic throughout a 24 hour period on a normal diet and a single dose of NPH insulin is designated as a B curve or a normal response. He develops a

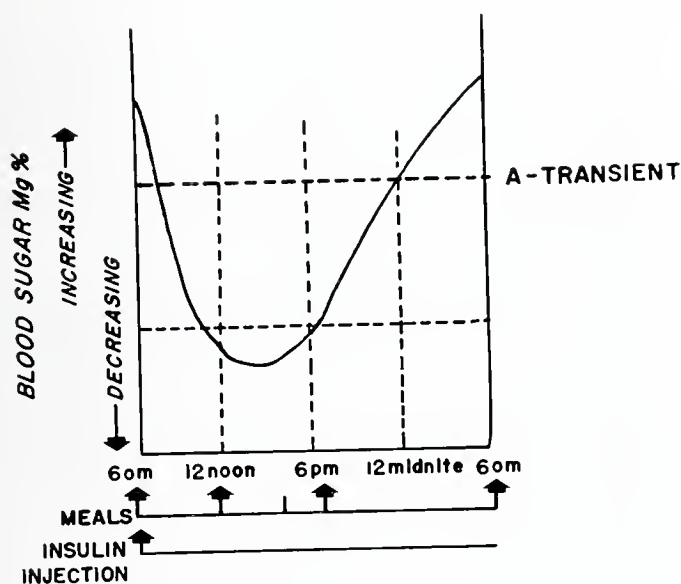


Figure 2.

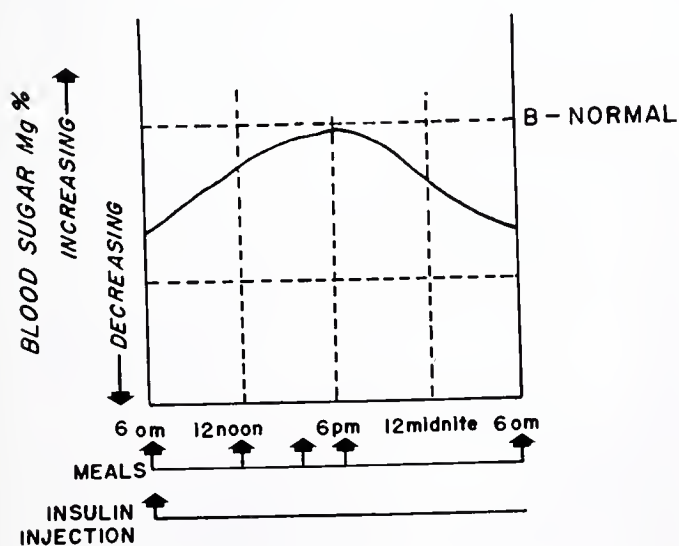


Figure 3.

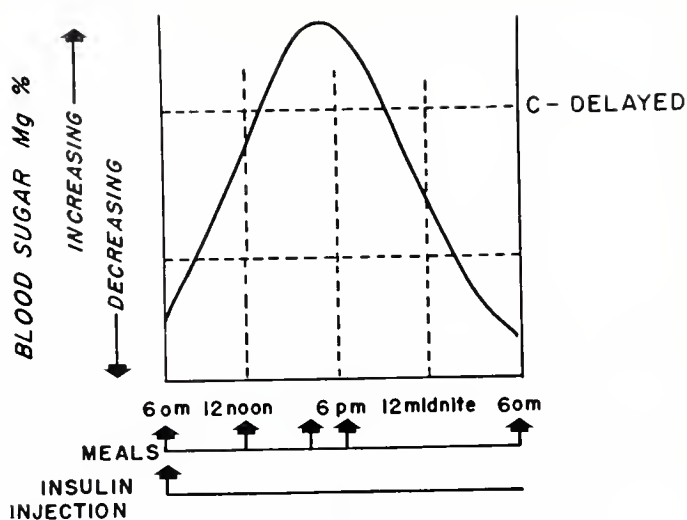


Figure 4.

tendency toward hyperglycemia only in relation to food ingestion. These patients are usually hyperglycemic and spill glucose in the morning and are more likely to have a hypoglycemic episode at the peak effect of their insulin during the mid-afternoon.

The response of a patient who is hyperglycemic during the day unrelated to meals and normoglycemic to hypoglycemic at night is designated as a "C" or delayed response. These patients have a delayed onset of action of the NPH dose and may be characterized by hypoglycemic reactions at night or in the early morning hours. They are usually treated by decreasing the dose of NPH before breakfast and adding crystalline insulin given as one shot. This is usually given as a 2:1 mixture of NPH:crystalline insulin.

The response of a patient with fasting hyperglycemia in the morning and hyperglycemia during the evening is designated as an "A" or transient response. These patients have their periods of normoglycemia restricted to the afternoon and experience their hypoglycemic reactions at that period of the day. These children frequently require 2 doses of NPH for optimal control and given $2/3$'s of the total dose in the morning and $1/3$ in the evening. An excellent idea of a given patient's response to a single dose of NPH insulin can also be obtained using the fractional urine collections. Patients are instructed to collect their urine in aliquots during the following time interims, measure the urine volumes, and perform a semiquantitative sugar on each aliquot: 8:00 a.m. — 12 noon, 12 noon — 4:00 p.m., 4:00 p.m. — 8:00 p.m., 8:00 p.m. — 8:00 a.m. The aliquots are spaced such as to take

into account the patients' usual insulin dosage, diet, exercise, and stresses. The insulin can then be regulated based on this fractional collection. If the patient is noted to have a large urine volume at certain periods of the day this usually suggests increased glucosuria. This is because increased glucosuria is usually always accompanied by an increased urine volume due to the osmotic effect of glucose.¹¹

COMPLICATIONS OF INSULIN THERAPY

The major complications associated with insulin therapy are (1) hypoglycemia, (2) resistance to insulin, (3) hypersensitivity to insulin (4) lipodystrophy, (5) presbyopia, (6) edema, (7) hepatomegaly and (8) cerebral edema. The most common complication of insulin therapy is hypoglycemia. These episodes are to be avoided, and the patient must be prepared to recognize the early symptoms of hypoglycemia to prevent a severe reaction, which may cause severe neurological damage.

HYPOGLYCEMIA

The early signs of hypoglycemia usually include hunger, restlessness, tremulousness, irritability, lethargy, and an inability to think clearly. These early signs of decompensated cerebral function are usually quite subtle. If disregarded the patient may later begin to manifest signs indicating marked increased function of the sympathetic nervous system such as flushing, palpitations, severe headache, visual disturbance, profuse perspiration, hyperventilation, and tachycardia associated with an increase in the systolic blood pressure. It is at this time that the patient should definitely ingest supplemental carbohydrate to abort the attack. If not, they may have a wide variety of neurological signs including twitching, generalized convulsions, sensory hemianesthesia, tonic-clonic movements and hemiparesis. Young children are capable of recognizing these early signs and should be instructed to carry a piece of candy with them at all times. The ingestion of carbohydrate immediately upon experiencing the earliest symptoms of hypoglycemia usually avert the severe hypoglycemic episode. If the patient progresses to coma, so that drinking sweetened orange juice or a cola or eating candy is impossible, the IV administration of D-50-W is indicated. Should the patient progress into coma, it is sometimes difficult to distinguish between diabetic coma from too little

insulin and hypoglycemia from too much insulin. Table 9 lists some of the differential points which may be used as a guide.

Excessive administration of insulin leads to wide fluctuations in blood glucose concentration and frequently inapparent hypoglycemia, followed by hyperglycemia and ketonuria. This has been called the "Sonogyi phenomenon."³⁵ The mechanism of hyperglycemia and ketonuria is probably catecholamine mediated and is only further aggravated by increasing insulin administration. If the dose of insulin exceeds 2 units per kilogram per day, this phenomenon should be suspected and the dose of insulin slowly decreased by 10% per day over the next several weeks. Some authors have reported using beta adrenergic blocking agents in the treatment of this phenomenon to reduce the catecholamine release³⁶ but we prefer decreasing the insulin dosage.

INSULIN RESISTANCE

Insulin resistance is very rare in the juvenile diabetic patient and has been said to occur in less than one in every one thousand treated diabetic patients. The classified definition of in-

Table 9
DISTINGUISHING FEATURES BETWEEN DIABETIC KETOACIDOSIS AND HYPOGLYCEMIC REACTIONS

<i>Signs and Symptoms of Diabetic Ketoacidosis</i>	<i>vs.</i>	<i>Signs and Symptoms of Hypoglycemic Reactions</i>
Onset:		
Slow		Rapid
Symptoms:		
Thirst		Fatigue
Nausea		Inability to concentrate
Vomiting		Yawning
Abdominal pain		Headache
Constipation		Sweating
Headache		Dizziness
Blurred vision		Blurred vision
Air hunger		Paraesthesia
Signs:		
Kussmaul respiration		Unusual behavior
Dehydration		Stupor
Flushed face		Pallor
Rapid pulse		Sweating
Hypothermia		Tachycardia or Bradycardia occasionally
Normal or depressed respiration		Seizures
Coma		Coma
Laboratory:		
High blood sugar		Low blood sugar
Glucosuria		No glucosuria usually
Ketonuria		Ketonuria

ulin resistance is a daily insulin requirement greater than 200 units/day as necessary to maintain adequate regulation.³⁷ In children a total daily dose in excess of 2 units per kilogram is considered indicative of insulin resistance. Insulin insensitivity occurs somewhat more frequently, and this term is usually reserved for diabetics who require more than 60 units of insulin per day but less than 200 units per day to achieve reasonable control. The etiology of insulin resistance is unknown. It has been proposed that patients have a decreased peripheral end-organ responsiveness, i.e., their tissues simply do not respond to insulin.³⁸ The other possibility is that the patients are making circulating antibodies to the insulin which has been injected.³⁹ Any diabetic patient requiring insulin for a long period of time may make antibodies to insulin. However, in most of these patients this has not been a major problem in management. We usually obtain insulin antibodies and if they are high we try a change in the animal source of the insulin.

INSULIN HYPERSENSITIVITY

A third complication of insulin therapy is that of hypersensitivity.⁴⁰ Approximately 5 to 10 percent of all diabetic patients will have dermal insulin hypersensitivity. Most of these reactions are very mild consisting of only stinging, redness, and induration at the injection site. They may be of two types, an immediate type which occurs within one hour after injection and a delayed type occurring 6-24 hours following an injection with individual reactions. These reactions usually occur within the first two years after beginning insulin therapy and is rarely a problem thereafter.¹⁰ For some of the more severe cases the pork insulin may be satisfactory, since it is usually less allergenic in man than the usual beef-pork preparation. Approximately one percent of the hypersensitive reactions, however, may be very serious ones that are manifest by urticaria, angioneurotic edema, gastrointestinal disorders, respiratory symptoms, arthritic complaints, anaphalactoid shock, and serum sickness.

Patients with severe insulin resistance or hypersensitivity may be treated with the antihistamines, corticosteroids, change in the animal source of the insulin or desensitization to help reduce the allergic response. However, it is recom-

mended that these patients be referred to a major center for proper antibody testing and regulation of insulin therapy.

LIPODYSTROPHY

A fourth complication of insulin therapy is lipodystrophy.⁴¹ There are two forms of lipodystrophy. One is manifest by hypertrophy at the site of injection, either soon after or several hours later and disappear within one to seven days. It is important that when these occur the sites not be continually used but rotated, since they may cause very large thickened patches in the skin so that the insulin is not absorbed well. These bumps usually go away when insulin is no longer injected near these sites. To prevent their occurring, we usually instruct our patients to inject the insulin deep into the muscle, and to rotate the sites so that they will not use the same site more than once in one month. The other form of lipodystrophy, fatty atrophy, usually appears months to years after the commencement of insulin therapy and lasts for variable periods of time. These have been attributed to the pH, the purity, the animal source, and/or the additives to the insulin, especially zinc. It has been suggested that the newer highly purified forms of insulin have a much lower incidence of fat atrophy than the other forms of insulin. The incidence is higher in girls and older patients. We usually treat these secondary fatty atrophies by having the patient warm the insulin to body temperature, inject the insulin directly into the center of the atrophic areas, rotate the sites for injection, inject the insulin intramuscularly, and/or change types of insulins. It has been reported that the incidence of fat atrophy is significantly less in a newer insulin preparation, used in Australia called Rapitard and Actrapid⁴² (17% compared to 72% with Lente).

PRESBYOPIA

A fifth complication of insulin therapy is that of presbyopia.⁴³ This is a bilateral transient loss of near vision usually occurring very early after the patient is begun on insulin therapy. It is thought to be due to a change in the osmotic equilibrium between the lens and ocular fluid. This condition usually resolves itself in a matter of one to four weeks. No special measures are necessary.

EDEMA

A sixth complication is that of insulin induced edema.⁴⁴ This usually occurs one to two days after the patient has been hospitalized and treated for ketoacidosis, and usually subsides in a few days following its occurrence. The etiology of this edema is not known. However, it is known that insulin has mild sodium retention properties. The other possibility is that the patients excrete an excessive amount of vasopressin. The hyperosmolar state of diabetes mellitus often serves as a stimulus for release of vasopressin into the plasma.⁴⁵ This serves as an attempt to correct the hyperosmolality by causing a marked retention of water.

HEPATOMEGALY

Another complication not infrequently seen is that of hepatomegaly⁴⁶ which also usually occurs immediately following treatment of the patient for severe ketoacidosis, and clears up in a matter of weeks. This is thought to be due to the marked increase in glycogen deposition in these patients following institution of insulin therapy.

CEREBRAL EDEMA

We have frequently had the experience of observing children recovering from diabetic ketoacidosis to be much improved biochemically, but to become clinically incoherent, more comatose, irritable, and restless. Clements, et al⁴⁷ recently reported finding elevated cerebrospinal fluid pressure in all of five patients monitored during the course of their therapy, developing CSF pressures of 300-700 mm water within 2-16 hours after the onset of therapy. In every case there was a significant fall in the blood sugar and plasma osmolality. They suggested the acute cerebral edema was the result of increased polyol pathway activity in brain cells. This pathway converts glucose to sorbitol and fructose. Increased concentrations of glucose, sorbitol and fructose have been demonstrated in the brains of diabetic rats.⁴⁸ The accumulation of sorbitol and fructose within the brain cells during hyperglycemia causes an osmotic disequilibrium between the brain cells and blood with a marked accumulation of water in the brain during rehydration. The authors suggest that the correction of the plasma hyperosmolality should not be too rapid, so as to allow more time for equilibration. In particular, rapid falls in blood sugar should be avoided, therefore, smaller

doses of insulin are recommended to cause a slower fall in the plasma glucose. Hypoglycemia is also known to cause cerebral edema, therefore, this should especially be avoided, because of further aggravation of the cerebral edema, caused by the rapid fall in the extra-cellular osmolality caused by the decrease in blood glucose.

Posner and Plum⁴⁹ have demonstrated that rapid correction of extra-cellular acidosis by infusion of large quantities of sodium bicarbonate can cause a paradoxical acidosis of the CSF with altered consciousness. This results from the relative impermeability of the blood brain barrier to the movement of bicarbonate ions and the rapid permeability to carbon dioxide. Other factors which may contribute to the cerebral edema are dehydration, acidosis, hemoconcentration and decreased cerebral blood flow, all of which may cause cerebral anoxia which may result in cerebral edema.

DIETARY MANAGEMENT

The broad goals of diabetic dietary management are shown in Table 10 as defined by Sussmann.³³ The ultimate goal is to permit the patient to live a comfortable asymptomatic life. This aim includes the promotion of normal growth and development, the development of a wholesome psychological attitude toward his condition, and freedom from symptomatic injurious hyperglycemia or hypoglycemic episodes. All but the extreme ranges of blood sugar are in keeping with this goal. The diet should be one which is nutritionally adequate, that the patient is capable of following and, therefore, not too different from his usual eating habits. The childhood diabetic should not go hungry, because if they are hungry they are much more likely to consume foods which we would not highly recommend.

There are minor restrictions on the diet, how-

Table 10

GOALS IN DIABETIC DIETARY MANAGEMENT

1. Diet must be nutritionally adequate, promoting growth and development.
2. Diet should be tailored to conform as much as possible to the usual eating habits of the patient.
3. Diet should restrict certain major sources of carbohydrates — pies, jams, jellies, sugar, honey, candy, etc.
4. Diet should provide proper distribution of carbohydrate, protein, and fat throughout the day.

Modified from Sussman, K. E., *Juvenile Diabetes Mellitus and Its Complications*, C. Thomas, 1971.

ever, no food is absolutely disallowed. The diabetic requiring insulin must eat multiple meals to avoid hypoglycemia. His eating pattern is dictated by non-physiologic rate of insulin release from the site of injection. Classically the food is distributed among three meals and two snacks, one snack to cover the time of peak activity for intermediate acting insulin or after school and the other for insurance against hypoglycemia during sleep or at bedtime. The basic pattern of food intake should be individualized to promote the maximum cooperation for day to day consistency. This consistency insures the greatest safety from hypoglycemia and the avoidance of symptomatic and theoretically detrimental hyperglycemia.

Various investigators have shown that diets high in carbohydrates frequently improve glucose tolerance in normal persons and usually do not increase and may actually lower the insulin requirement in insulin dependent diabetics. Therefore, we are now recommending diets higher in carbohydrates and lower in fats, especially the unsaturated fats. A diet for diabetics which is high in carbohydrates and low in polyunsaturated fats will lower serum lipid levels significantly.³⁴ The relationship of lipid abnormalities to the development of vascular complications is complex, but it does appear that there may be a correlation with major vessel disease.

In deciding the dietary prescription or the kind of diet a patient should be on, one must consider the size of the patient and the age of the patient, especially children. The total calories in the diet should be 25 to 30 calories per kilogram of body weight. A simple formula for calculating total calories in a diet is to multiply the ideal body weight in pounds by a factor of 10. The diet we recommend usually derives 50% of the total calories from carbohydrates, 30% from fat and 20% from protein. It is usually provided in 3 meals and 3 snacks for younger children and 3 meals and 2 snacks for older children.

In children one may wish to prescribe 1,000 calories for the first year of age plus one hundred calories for each additional year of age up to the age of 13 or 14, plus 200 to 300 calories to meet urinary losses of glucose. Our

nutritionist usually calculates the patient's dietary prescription and makes sure that the patient has adequate number of calories and that they are getting plenty to eat and are not hungry. When this is established, they are instructed on the dietary exchange system as outlined in the Arkansas Diet Manual. The foods are divided into the 6 major groups which are referred to as exchanges. It is important that the patient understand these foods and exchanges such that they can freely substitute one food for another within a given group. We do not have our patients eat any special dietetic foods. We usually have them eat whatever the family eats and usually the entire family eats a more nutritious diet. Dietary excesses, although leading to increasing hyperglycemia and glucosuria, do not induce ketoacidosis. Consequently, we do not prohibit our patients from eating foods appropriate to special occasions such as parties, birthday, holidays, etc.

PATIENT EDUCATION

One of the crucial factors of successful diabetic control is the education of the patient and his family about the disease. A word of caution concerning early self-care of the juvenile diabetic should be mentioned here. In a study conducted by Etzwiler⁵⁰ it was shown that most children below 12 years do not comprehend the basic theory of the treatment of diabetes, i.e., controlling hyperglycemia with insulin. Etzwiler⁵⁰ advises that full self-care not be given to the juvenile diabetic until he reaches the point that he understands why he takes insulin, how to avoid insulin reactions, and why checking his urine for glucose is related to adjusting insulin dosage. Etzwiler also believes that forcing self-care of juvenile diabetics too early may be a factor in producing rebellious, maladapted teen-age diabetics. Young children must be well supervised if they are checking their urine or giving their injections. By the age of 12 or 13 most children are able to accept the responsibility of self-care.

A teaching program for the diabetic must include not only the patient, but also his family. Sussman presents the educational program as having four major goals:

- (1) Motivation of the patient to follow a program.
- (2) Transmitting information to the patient

through individual and group teaching conferences.

- (3) Stimulation of the patient to learn more about diabetes through reading.
- (4) Providing emotional support and allaying fears concerning this disease.

The levels of instruction for patients varies according to intelligence and motivation. A convenient outline of a minimal amount of material that may be used as a guide for teaching diabetics is shown in Table 11.

An effective teaching program requires more than a one-time session at the onset of the disease. Group teaching sessions spread over a period of several weeks have been used effectively. Also, each time the patient visits the physician's office, he should be questioned and reviewed on his understanding and carrying out of urine checks, diet, insulin injections, and dosage adjustments, and recognition and response to any hypoglycemic episodes.

Table 11

OUTLINE OF A MINIMUM STANDARD
OF DIABETIC EDUCATIONAL MATERIAL

1. Diet
 - a. Exchanges
 - b. Types of foods
 - c. Preparation
 - d. Measuring
 - e. Timing of feedings
2. Insulin
 - a. Type or types
 - b. Concentration
 - c. Doses
 - d. Timing of injections
 - e. Care of the syringe and needle
 - f. Loading the syringe
 - g. Injection technique, including sites
3. Insulin reaction
 - a. Symptoms
 - b. Treatment
 1. Concentrated carbohydrate
 2. Starch or protein
4. Urine testing
 - a. Collection
 - b. Glucose testing
 - c. Ketone testing
 - d. Keeping accurate records
5. Special problems
 - a. Call physician
 - b. Sick day rules
 1. Always take insulin
 2. Special liquid diet
 3. Test urine for sugar and acetone
 4. Consult a physician

Modified from Sussman, K., *Juvenile Type Diabetes and its Complications*, Charles C. Thomas, 1971.

The types of insulin as shown in Table 3 and their characteristics should be explained to the diabetic patients so they can understand the action of the insulin they are placed on. This will help them know when hypoglycemic episodes are more likely to occur on their particular insulin regimen. This is also necessary in order for them to be able to adjust their insulin dose themselves, especially if they are taking two kinds of insulin or taking more than one injection/day.

The different concentrations of *insulin preparations* should also be explained to the patient. Most types of insulin come in two strengths — U-80 and U-40. This means that U-80 preparations have 80 units of insulin per cc, and U-40 has 40 units per cc. Separate syringes are made for the use of U-40 only and the use of U-80. Although syringes are available with both U-40 and U-80 scales on the syringe, they are not recommended for use in children. However, a newer preparation is now available — U-100. It is thought this preparation may decrease the number of errors made in the dosages. It contains 100 units of insulin per cc. Most insulin syringes are 1 cc, but 2 cc ones are available. The plastic disposable syringes and disposable needles are recommended over the re-usable glass syringes and steel needles which must be sterilized by boiling water for 15 minutes before re-use. The usual needle, whether disposable or re-usable, is 26 gauge and 1/2 inch in length.

Injection of insulin is also an important point that the patient must understand well. The site of injection is first cleansed with a cotton swab dipped in alcohol, or with the pre-packaged preptic swabs. The skin at the site should be pinched up by one hand. Then the syringe is placed at an angle to the skin at the pinched up area and the needle quickly inserted for its entire length to insure sufficient depth of injection. After injection the skin should be held firmly with cotton dipped in alcohol near the needle and the needle withdrawn, maintaining the original position of the syringe. The patient should be instructed to rotate the sites of the injections so that the same site is never used more than once per month. The upper arms, abdomen, anterior thighs and buttocks may all be used for injection sites.

Insulin reactions have been discussed under the section on insulin complications. The most important point that the patient should understand is that he should carry some carbohydrate (sugar cube, candy) with him at all times to prevent severe hypoglycemia and to reduce his insulin dose by 10% the following day. To insure that a patient knows when he is experiencing hypoglycemia symptoms, he may be allowed to have a minor hypoglycemic episode during his initial hospitalization while he is under constant medical attention.

Diabetic patients should thoroughly understand the procedure of *collecting and testing urine* for sugar and acetone. The double voiding method of urine collection is necessary for the routine estimation of adequacy of insulin therapy. If the patient is having difficulty he may do the fractional semi-quantitative urine test for sugar. This simply means that the patient should void approximately 30 minutes before collecting the urine sample to be tested for sugar. In either case, Clinistix or Clinitest tablets may be used to test for sugar in the urine. Clinistix is specific for glucose while Clinitest gives a positive reaction to several sugars. Acetest tablets are used for the detection of acetone. The patient should be well instructed on how to use and interpret these tests. They should also be instructed to keep a daily record of their test values for their own aid in knowing how to adjust their insulin dosages. Urine tests at home should be done 2 times/day, once in the morning before school (if child is school age) and once in the afternoon after school. There is no need in asking a child to test his urine at school during recess or lunch period. Carrying out an acetone test need only be done when the urine is running 4+ sugar or when the patient is ill. The patients must accept the idea that they are responsible for treating their disease and keeping a record of urine sugars is his only way of knowing if and when the insulin needs adjustment and how much to adjust it. The urine should not remain glucose negative, but should run trace to 1+. The insulin must not be juggled up or down every day, but should only be changed when the urine sugar runs 0 or 3 to 4+ for more than 2 consecutive days. The recommended adjustment is a 10% increase or decrease of the usual dose, depending on whether

the urine sugars run 4+ or 0.

Regardless of illness, the patients are instructed to keep taking their insulin, even in case of vomiting and diarrhea. The patients should be urged to call their physicians during an illness or other special problem when their diabetes goes rapidly out of control and they become unstable. This may require hospitalization and a regimen of regular insulin 4 times/day until the diabetes is under control again. If the patient is unable to contact the physician, we usually have them begin crystalline insulin immediately. The dose is 25% of their usual long acting daily insulin. This can be given every six hours until they are no longer ketonuric. They are also instructed to sip liquids containing glucose such as cokes, 7-up, orange juice, etc., with ice in it. The patients must also understand that if they have ketonuria and no glucosuria, they must immediately take in more sugar-containing liquids.

In addition to the educational instruction for the patient, we have a recommended reading list for our older diabetic children and their parents. These are shown in Table 12. This educational

Table 12
RECOMMENDED READING FOR THE DIABETIC
CHILD AND THEIR PARENTS

1. The Insulin Key, An Introduction to Diabetes for the Young Child. By Mary P. Ferguson. Can be ordered from:
The Insulin Key
7127 58th Avenue, N.E.
Seattle, Washington 98115
at \$1.25/copy or \$1.00/copy and postage in quantities of 10 or more.
2. Care of the Child with Diabetes. 24-page illustrated booklet. Free of charge from Ames Co.
3. Guidebook for the Diabetic — free.
4. Mr. Hypo Is My Friend. Free all may be obtained from
Diabetes in the News
Ames Co.
Division of Miles Laboratory, Inc.
Elkhart, Indiana 46514
5. An Instructional Aid on Juvenile Diabetes Mellitus. Author — Luther B. Travis, M.D., Department of Pediatrics, University of Texas, Medical Branch, Galveston, Texas. Cost — \$1.50/copy. Write:
South Texas Diabetes Association, Inc.
P. O. Box 1638
Pasadena, Texas 77501
6. A Program for Learning About Diabetes Called "Getting Started" prepared by Becton Dickinson Co. is available. For information write:
Becton, Dickinson, and Co.
Rutherford, New Jersey 07070

program has greatly reduced the number of children we see with diabetic ketoacidosis and also markedly reduced the number of hospitalizations required. The next two papers are principles of the educational and dietary program as presented by our nurse practitioner and nutritionist at the University of Arkansas Medical Center.

REFERENCES

1. Laron, Z.: Treatment of diabetes in children: revisited, *Pediat. Ann.* 3:63, 1974.
2. Parker, M. L., Pildes, R. S., Chao, K. L., Comblath, M., and Kipnis, D. M.: Juvenile diabetes mellitus, a deficiency in insulin. *Diabetes*, 17:27, 1968.
3. Steiner, D. F., Cunningham, D., Spigelman, L., Aten, B.: Insulin biosynthesis: evidence for a precursor. *Science* 157:697, 1967.
4. Steiner, D. F., Clark, J. L., Nolan, C., Rubenstein, A. H., Margoliash, E., Aten, B., and Oyer, P. E.: Pro-insulin and biosynthesis of insulin. *Res. Prog. Horm. Res.*, 25, 207, 1969.
5. Whitfield, A. G. W., Crane, C. W., French, J. M., and Baylcy, T. J.: Life without a pancreas. *Lancet*, 1:675, 1965.
6. Park, C. R., Reinwein, D., Henderson, M. J., Regen, D. M., Cadenas, E., and Morgan, H. E.: The action of insulin on the transport of glucose through the cell membrane. *Am. J. Med.*, 26:674, 1959.
7. Wool, I. G., Stirewalt, W. S., Kurihara, K., Low, R. B., Bailey, P., and Oyer, D.: Mode of action of insulin in the regulation of protein biosynthesis in muscles. *Res. Prog. Horm. Res.*, 24:139, 1968.
8. Fitzgerald, M. G., and Keen, H.: Diagnostic classification of diabetes. *Br. Med. J.*, 1:1568, 1964.
9. Ricketts, H. T., Cherry, R. A., and KIRSTEINS, L.: Biochemical studies of "prediabetes." *Diabetes* 15:880, 1966.
10. Jackson, R. L., and Guthrie, R. A.: The child with diabetes. *Mo. Med.* 69:351, 1972.
11. Drasch, A.: Diabetes mellitus in childhood: a review. *J. Pediatr.* 78:919, 1971.
12. Karp, M., Brown, M., and Laron, Z.: A contribution to the interpretation of the oral glucose tolerance (OGTT). *Diabetologia*, 8:381, 1972.
13. Weil, W. B., Jr.: Juvenile diabetes mellitus, *N. Engl. J. Med.* 278:829, 1968.
14. White, P.: Natural course and prognosis of juvenile diabetes, *Diabetes* 5:445, 1956.
15. Schwartz, R.: The critically ill child: diabetic ketoacidosis and coma. *Pediatrics* 47:902, 1971.
16. Danowski, T. S.: Diabetes mellitus: with emphasis on children and young adults. Baltimore, The Williams and Wilkins Company, 1957, 510 p.
17. Hallas-Moller, K.: Lente insulins. *Diabetes* 5:7, 1956.
18. Jackson, R. L.: The child with diabetes. *Nutrition Today*, March/April, 1971, p. 2.
19. Baker, L., Kaye, R., and Root, A. W.: The early partial remission of juvenile diabetes mellitus: the role of insulin and growth hormone. *J. Pediatr.* 71:825, 1967.
20. Kohrman, A. F., and Weil, W. B.: Juvenile diabetes mellitus. *Adv. Pediatr.* 18:123, 1971.
21. Anderson, O. O.: Insuli antibody formation, I. The influence of age, sex, infections, insulin dosage and regulation of diabetes. *Acta Endocrinol.* 71:126, 1972.
22. Martin, M. M., Martin, A. L. A.: Obesity, hyperinsulinism, and diabetes mellitus in childhood. *J. Pediatr.* 82:192, 1973.
23. Madison, L. L.: Role of insulin in the hepatic handling of glucose. *Arch. Intern. Med.*, 123:284, 1969.
24. Schwartz, R.: The critically ill child: diabetic ketoacidosis and coma. *Pediatr.* 47:902, 1971.
25. Lloyd, J. K.: Serum lipids in diabetic children. *Postgrad. Med. J. (supplement)* 46:600, 1970.
26. Silink, M., and Vines, R.: Diabetic ketoacidosis in childhood. *Med. J. Aust.* 1:250, 1973.
27. Guest, G. M., and West, C. D.: Fluid therapy in diabetic acidosis. *Pediatr. Clin. N. Am.* 11:903, 1964.
28. Grunt, J. A., and Enriquez, A. R.: Essentials in the management of juvenile diabetic ketoacidosis. *Connecticut Med.* 35:545, 1971.
29. O'Brien, D.: Chronic management of diabetes in children. *J. Florida Med. Assoc.*, 58:43-44, 1971.
30. James, R.: Rational approach to the treatment of insulin-dependent diabetes mellitus. *Mo. Med.*, 70:650, 1973.
31. Forman, B. H., Goldstein, P. S., and Genel, M.: Management of juvenile diabetes mellitus: usefulness of 24-hour fractional quantitative urine glucose. *Pediatrics*, 53:257, 1974.
32. Belmonte, M. M., Sarkozy, E., and Harpur, E. R.: Urine sugar determinations by the two-drop clinitest method. *Diabetes* 16:557, 1967.
33. Sussman, K. E., Ed.: Juvenile-type diabetes and its complications: theoretical and practical considerations. Springfield: Charles C. Thomas, 1971. 487 p.
34. Litman, N. N.: Juvenile diabetes mellitus in metabolic, endocrine and genetic disorders of children. Ed. Kelley, V. C. Vol. II, Chapt. 34:625. Harper & Rowe Inc. Hagerstown, Md. 1974.
35. Somogyi, M.: Exacerbation of diabetes by excess insulin action. *Am. J. Med.* 26:169, 1959.
36. Baker, L., Barcai, A., Kaye, R., and Hague, N.: Beta adrenergic blockade and juvenile diabetes: acute studies and long-term therapeutic trial: evidence for the role of catecholamines in mediating diabetic compensation following emotional arousal. *J. Pediatr.* 75:19, 1969.
37. Sussman, K. E.: "Complications of insulin therapy," in juvenile-type diabetes mellitus and its complications. ed. by K. E. Sussman, Charles Thomas, 1971, p. 94.
38. Kreines, K.: The use of various insulins in insulin allergy. *Arch. Intern. Med.* 116:167, 1965.
39. Kniker, W. T.: "Insulin and its immunologic reactions," in Kimura, S. J. and Caygill, W. M. (eds.): Vascular complications of diabetes mellitus: with spe-

- cial emphasis on microangiopathy of the eye. St. Louis, Mosby, 1967, p. 184.
40. Palumbo, P. J., Molnar, G. D., and Taupe, W. N.: Adrenal steroid therapy in insulin resistance: a clinical and immunologic study, *Mayo Clin. Proc.*, 39:161, 1964.
 41. Watson, D. and Vines, R.: Variations in the incidence of lipodystrophy using different insulins. *Med. J. Aus.* 1:248, 1973.
 42. Court, J. M., and Amies, G. C.: Rapitard insulin in the management of juvenile diabetes, *Med. J. Aus.* 2:5, 1973.
 43. Safir, A., Paulsen, E. P., Klayman, J., and Gerstenfeld, J.: Ocular abnormalities in juvenile diabetes. Frequent occurrence of abnormally high tensions. *Arch. Ophthalmol.* 76:557, 1966.
 44. Kirtley, W. R.: Rapid corrections of metabolism defect may cause edema in diabetes: report of a case. *J. Indiana State Med. Assoc.* 48:1290, 1955.
 45. Young, T.: Depletion of antidiuretic hormone in the pituitary of rats with diabetes mellitus. *Endocrinology* 84:960, 1969.
 46. Danowski, T. S.: *Diabetes mellitus, with emphasis on children and young adults.* Baltimore, Williams & Wilkins, 1957.
 47. Clements, R. S., Jr., Blumenthal, S. A., Morrison, A. D., and Winegrad, A. I.: Increased cerebrospinal-fluid pressure during treatment of diabetic ketosis. *Lancet*, 2:671, 1971.
 48. Morrison, A. D., Clements, R. S., Travis Jr., S., Oski, F., and Winegrad, A. I.: Glucose utilization via the polyol pathway in human erythrocytes. *Diabetes (suppl.)* 19:357, 1970.
 49. Posner, J. B., and Plum, F.: Spinal-fluid pH and neurologic symptoms in systemic acidosis, *N. Engl. J. Med.*, 277:605, 1971.
 50. Etzwiler, D. D., and Sines, L. K.: Juvenile diabetes and its management: family, social, and academic implications. *JAMA*, 181:304, 1962.



Multiphasic Screening in an Indigent Population

Paul Rountree, M.D.* and Thomas S. Frasier**

ABSTRACT

The need for medical and dental care in an economically deprived population is documented using a paramedical team to perform multiphasic testing. Types of problems more frequently encountered in this population are categorized.

This report summarizes data accumulated in a multiphasic screening project performed at the East Little Rock Community Clinic in an indigent section of Little Rock. Overall, it was found that screening by paramedical personnel is a useful tool in detection of disease. However, the use of a computerized history was deemed somewhat unsatisfactory. Information is presented herein concerning disease prevalence in the involved population. This may prove to be helpful in planning for health care delivery in other areas.

BACKGROUND DATA

The East Little Rock Community Clinic is an ambulatory health center located in the Model Cities of Little Rock. The population is predominately black and the average income low. The clinic originated with part-time involvement of medical and nursing students and developed into its present position as a full-time medical institution presently funded by the Model Cities program. For the past several years, a neighborhood clinic has been available, but with less sophisticated facilities and equipment. Support is presently received from several hospitals. Private and academic physicians in the Little Rock area are also actively involved.

In January, 1973, a screening program was initiated involving paramedical personnel from the 810th Hospital Unit of the U. S. Army Reserve with laboratory support from St. Vincent Infirmary and radiologic support from the Baptist Medical Center. The project was supported and partially coordinated by the Arkansas Regional Medical Program.

OBJECTIVES

To appropriately assess the disease prevalence in the indigent population of the Model Cities

area utilizing team multiphasic screening as an early illness detection tool.

METHODS

Residents of the neighborhood were notified of the availability of screening by use of a newsletter and by word of mouth. The intention of such testing was explained to several community leaders (religious, civic, labor, etc.). Referral by physician was not a primary source of the patient load.

The army reserve medical unit provided the services of skilled personnel including an optometrist, a dentist, a laboratory technician, an x-ray technician, and nurses. Other non-medical personnel performed duties as receptionist and coordinator. Community members were trained to perform duties such as patient interview.

The twelve lead electrocardiograms were interpreted by a cardiologist. All x-rays were read by a radiologist. Visual acuity and tonometry readings were performed by an optometrist.

Measurements of hemoglobin and hematocrit as well as the urinalysis were performed by a qualified technician at the clinic but chemistry examinations (SMA-12) were sent to a large hospital laboratory. A computerized history using pre-punched cards was employed and patients were assisted in the interview by screening personnel.

DISCUSSION

This report is not intended to be a "scientific" study and it is apparent that the data cannot be interpreted as such. The population sample is not necessarily representative of the neighborhood, but in fact, consists of people who, for their own reasons, desired screening for disease. It is, however, a fair sampling of the group of patients who appear in a neighborhood clinic. Historical information, as collected using a computer device, demonstrates the type and relative frequency of problems presented to the physician in such a setting. When patients were subsequently examined by a physician it was noted that much "false positive" information was presented. Examples of this included the large number of patients who thought they had "moles rapidly growing larger" and the failure of the computer to distinguish between a tumor (such as a uterine "fibroid") and a cancer. Symptoms

*Medical Director, East Little Rock Community Complex, 2500 East Sixth Street, Little Rock, Ark. 72202.

**811 North Grant.

referable to the cardiopulmonary system (chest pain, dyspnea, and edema) were in keeping with the amount of objective data found to be abnormal in this population. Forty-five percent of the patients had blood pressure measurements in excess of 160 systole and/or 96 diastole. Electrocardiograms were definitely abnormal in 23% of the population studied. These results were expected and represent the most important health hazard to the population under study.

The prevalence of gastrointestinal symptoms (frequent abdominal pain, vomiting, diarrhea, melena or blood in the stool) was higher than anticipated but in many cases the severity of the symptoms was negligible. One patient, with a history of blood in the stools, was subsequently found to have carcinoma of the colon. A few cases of duodenal ulcer and cholecystitis were uncovered. Frequently, however, the patients had vague gastrointestinal symptoms which defied precise diagnosis. The frequency of arthritis as a complaint was also unexpectedly high. Factors involved may include the frequency of manual labor in this population and the prevalence of obesity. Screening for visual abnormalities revealed an obvious need for glasses in the majority (81%), but no new cases of glaucoma were discovered. The paucity of dental services available to an indigent population is perhaps reflected by the large number of persons in need of care.

Laboratory data was not particularly impressive with the exception of the number of patients with increased L.D.H. No explanation for this finding was apparent and further studies are needed.

CONCLUSION

Multiphasic screening is a useful tool in the evaluation of patient problems and may be performed adequately by paramedical personnel.

The indigent black population in Little Rock has need of medical and dental services. Frequent problems included hypertension, obesity, arthritis, and poor dental hygiene. In addition, there is a need for glasses in a majority of the studied population.

A total of 195 people were screened. These charts represent results found in the first 100 of the total screened.

PATIENT PROFILE

Race	95% black
Sex	73% female
Age (avg.)	50
Ht. (avg.)	5 ft. 4¾ in.
Wt. (avg.)	172 pounds

HISTORY

Chest Pain	28%
Shortness of breath	40%
Edema	18%
Tobacco use	38%
Alcohol use	35%
Moles on skin growing larger	13%
Abdominal pain	57%
Dysuria	16%
Depression	28%
Arthritis	61%

EXAMINATION

Blood Pressure (Increased)	45%
Visual Acuity (Decreased)	81%
Tonometry (Increased)	2%
Dental Exam (Care Needed)	94%
Audiometry (Hearing Loss)	28%

LABORATORY EXAMINATIONS

Urinalysis:	
glycosuria	7%
proteinuria	7%
bilirubinuria	0%
pyuria	17%
Hematology:	
Hgb/Hct (low)	1%
White Cell (increased)	1%
Chemistry:	
Calcium (abnormal)	17%
Glucose (abnormal)	22%
BUN (increased)	4%
Creatinine (increased)	4%
Uric Acid (increased)	6%
Total Protein (abnormal)	2%
Albumin (abnormal)	9%
Bilirubin (increased)	1%
Alk. phosphatase (increased)	10%
Lactic dehydrogenase (increased)	46%
S.G.O.T. (increased)	10%

ELECTROCARDIOGRAM

Abnormal	23%
Equivocal	18%

CHEST X-RAY

Abnormal	29%
----------	-----

B-Mode Ultrasonic Scanning

John C. Holder, M.D.*

I. Introduction

The technology of high frequency sound waves and how they are transmitted through a medium is referred to as ultrasonics. When traveling through a medium of uniform density, sound waves are partially reflected when they strike a medium of a different density much in the same way the ripples in a pond are reflected from the edge of the pond. Thus ultrasound is valuable in detecting subtle differences in tissue density (acoustic impedance). While a renal cyst is not detectable in a kidney on X-ray, it is easily seen with the appropriate ultrasound scan.

Originally developed in World War I, high frequency sound wave technology was refined by the U. S. Navy during World War II where it was known as Sonar. Industry has made ex-

tensive use of ultrasound particularly in flaw detection in materials such as metals. The technique has been used in medicine only in recent years.

Frequencies used in diagnostic ultrasound range from 1 to 20 MHz (million cycles per second) with 2 MHz being the most common. These frequencies are produced from the electrical stimulation of certain synthetic ceramic crystals. The crystal or transducer not only serves as a sending unit, but also "hears" the returning echoes. This information is treated electronically and displayed on an oscilloscope for viewing and recording on film.

Sound waves are poorly propagated in air, thus ultrasound has little role in the evaluation of lung parenchyma. Lesions on the chest wall such as effusions may be localized via diagnostic ultra-

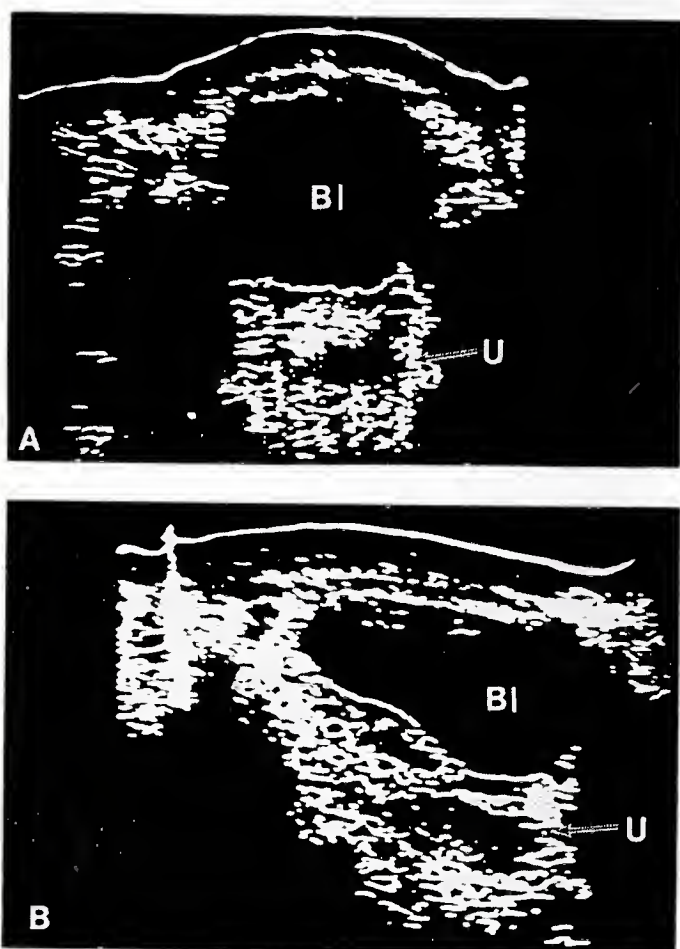


Figure 1.
Normal Female Pelvic Structures

This midline transverse scan (A) shows the urine filled bladder (B) and uterus (U). The longitudinal scan (B) also demonstrates the bladder and uterus.

*Assistant Professor, Department of Radiology, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72205.

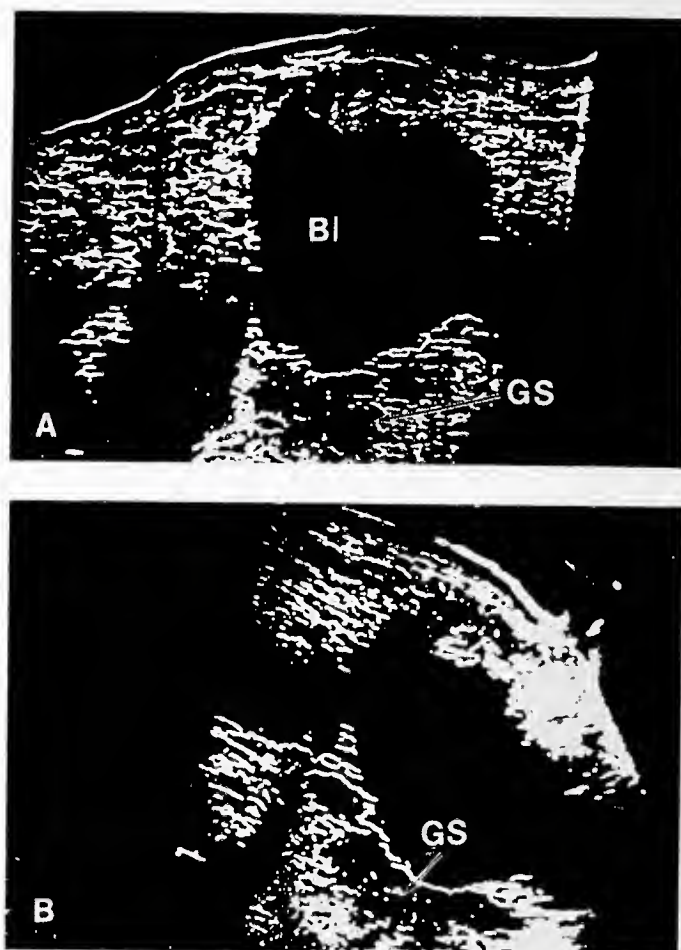


Figure 2.
Early Pregnancy

This transverse scan (A) demonstrates a urine filled bladder (B1) and a slightly enlarged uterus containing a gestational sac (GS). The longitudinal (B) scan also demonstrates the gestational sac. Two "frog" tests on this patient had been negative, though she subsequently proved to be pregnant.



Figure 3.
Twins

Longitudinal scans (A & B) demonstrating two fetal heads (FH). If multiple gestational sacs can be identified, an early diagnosis of multiple pregnancies can be made.

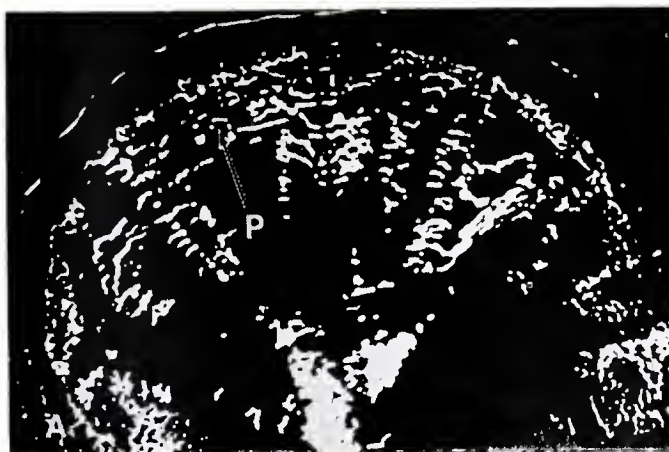


Figure 4.

Normal Placenta

This transverse scan (A) demonstrates an anterior placenta (P). The same scan as (A) shown in (B) utilizing an electronic "trick" to produce many shades of gray. Note how much better the placenta is seen.

sound. A fluid filled object such as the abdominal cavity or a pregnant uterus are best studied with ultrasound. Perpendicular reflection of sound wave occurs at tissue-fluid or tissue-tissue interfaces. Thus a urine filled bladder will be seen to be echoless or "sonolucent" (Fig. 1). A mass lesion containing many internal echoes is suggestive of a tumor. The sensitivity of an ultrasound machine can be altered so that more or fewer echoes may be produced. This is valuable in determining whether an object is truly solid or cystic.

Ultrasound is non-invasive and does not expose the patient to ionizing radiation. As no deleterious effects of diagnostic ultrasound have been demonstrated, early and repeated examinations may be carried out even in pregnant patients if desired by the physician.

II. Obstetrics

A. Proof of Fetal Life

Proof of early fetal life consists of the demon-

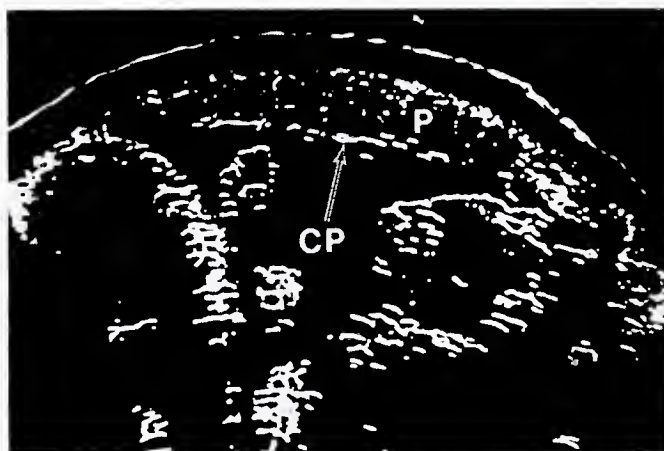


Figure 5.

Chorionic Plate

A normal chorionic plate (CP) is seen in this transverse scan. Note that it is relatively straight.

stration of an intrauterine gestational sac (Fig. 2). This will first be demonstrated at the fifth or sixth week and serial growth noted until the tenth to eleventh week. At this point, the gestation sac begins to "break up" on scan. The fetal head next appears at twelve to fourteen weeks. A progressive growth of the fetal head continues

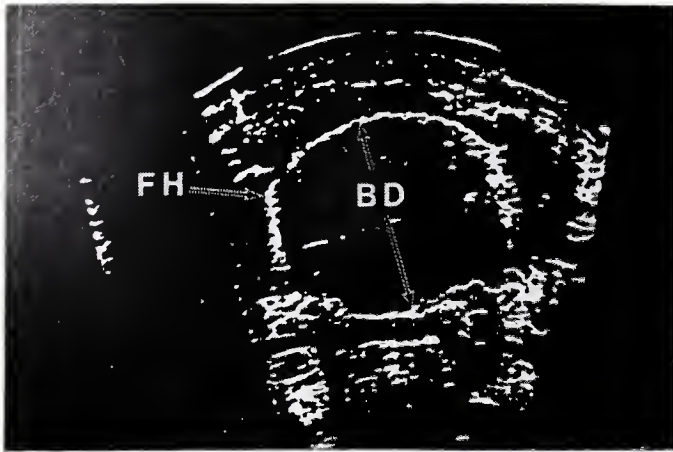


Figure 6.
Fetal Head

The biparietal diameter (BD) measurement is shown on this transverse scan. Multiple scans must be obtained in order to determine the maximum biparietal diameter. The accuracy of this determination is $\pm 5\%$ and is usually within a week.

until birth, and this may be followed with serial scans. The biparietal diameter is the measurement used to determine fetal maturity.

Occasionally an early diagnosis of twins is possible (Fig. 3).

B. Placental Localization

The localization of the placenta becomes possible on ultrasonic scan about the time the gestational sac begins to "break up," namely, around ten weeks. Normally the placenta is located anteriorly in the uterus against the uterine wall. When the pregnancy is near term, the placenta should be located high in the uterus (Fig. 4). A low lying placenta at term should suggest the diagnosis of placenta previa. Normally the placenta will contain many internal echoes corresponding to its internal structure. A chorionic plate (Fig. 5) may be seen on the fetal side of the uterus. Abruptio placentae is suggested when a relatively sonolucent area is seen between the placenta and the uterine wall representing the hematoma.

C. Fetal Position and Fetal Age

As a pregnancy nears term, it becomes increasingly important to know not only the position of the fetus, but the maturity of the fetus. The biparietal diameter of the fetal skull as determined by a lateral scan of the head is quite accurate. The babies of diabetic mothers will have unusually large heads as seen by ultrasound, and this should be kept in mind when a biparietal measurement is made. The determination of fetal

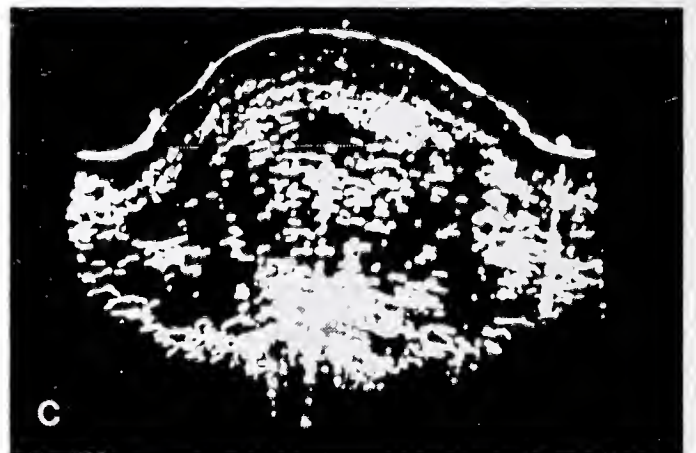
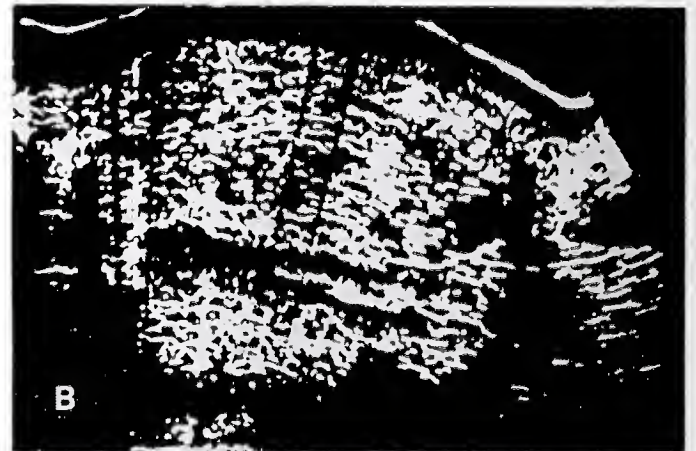


Figure 7.
Hydatidiform Mole

A. and B. are longitudinal scans. By decreasing the "loudness" of the sound from the level used in A, more echoes are produced in B. Note the characteristic "snowstorm" appearance. C. is a transverse scan.

position usually presents few problems. The fetal head and thorax are the most easily identifiable structures (Fig. 6).

D. Hydatidiform Mole

This unusual condition represents an uncontrolled tumorous growth of placental tissue. Suggested clinically by a rapidly growing uterus too large for gestational dates, it has a classical ap-

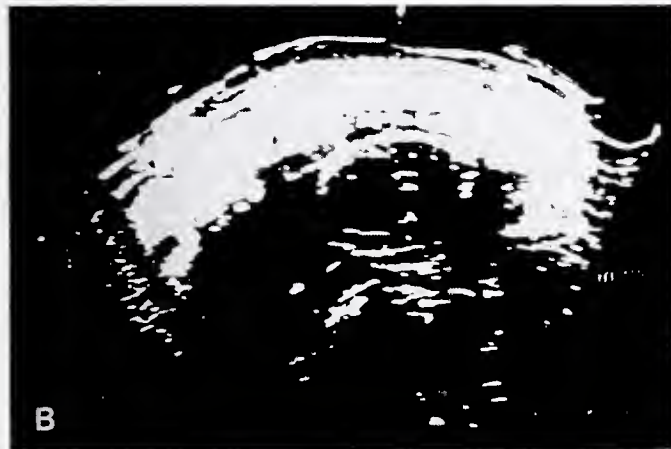
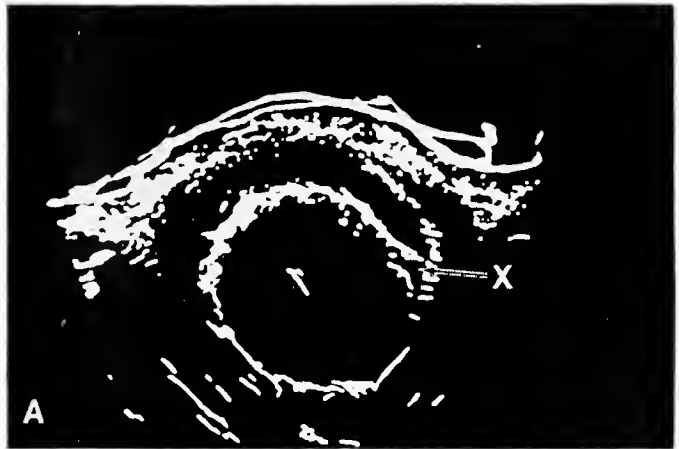
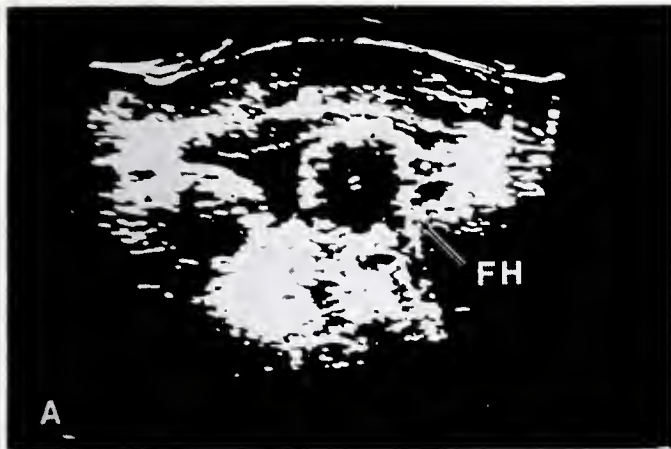


Figure 8.
Fetal Death

The dense fetal scalp seen in A. longitudinal scan and B. transverse scan are highly suggestive of fetal death.

pearance on ultrasound scans. Since it is a placental tumor, one would expect to see a uterus filled with placenta. This is exactly what is seen. The appearance has been referred to as a "snow storm" on ultrasound scan (Fig. 7). Occasionally, a dead fetus will be found in association with a mole. As this diagnosis requires emptying of the uterus, care should be taken in making the diagnosis. Multiple longitudinal and transverse scans should be obtained in order to avoid diagnosing an unusually positioned normal placenta as a mole.

E. Fetal Death

A lack of growth in the biparietal diameter on serial examinations covering a period of weeks is good evidence of fetal demise. A dense or double line of the fetal head is highly suggestive of fetal death. This dense or double line represents edema of the fetal scalp (Fig. 8). Other, somewhat uncommon, signs are shown in Figure 9.

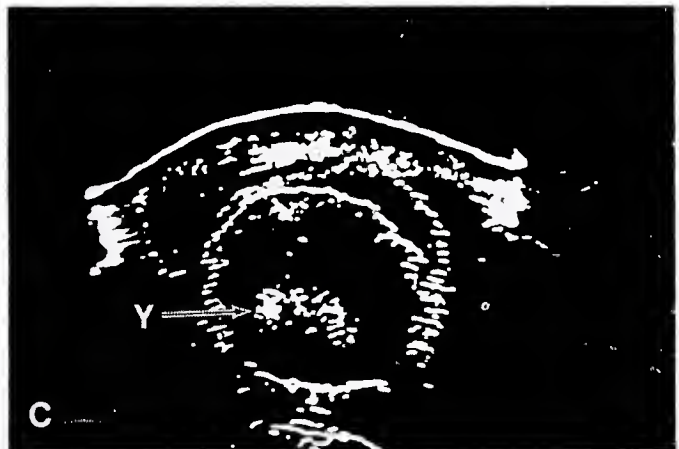


Figure 9.
Fetal Death
Multiple transverse scans illustrate this case of fetal death. A. shows overlapping skull bones (X) while B. demonstrates edema of the fetal scalp. C. shows echoes within the head (Y) compatible with breakup of the cranial contents.

F. Missed Abortion

A missed abortion refers to one which has failed to be expelled from the uterus. Clinically, the uterus should be small for dates. The scan will show only disorganized echoes of unrecognizable form (Fig. 10). Care should be taken to avoid that period in a pregnancy (11-14 weeks) when the gestational sac "breaks up" and before fetal parts are visible.



Figure 10.
Missed Abortion

This uterus (U) was small for dates. The longitudinal scan A. and the transverse scan B. show only scattered echoes in disorganized pattern.

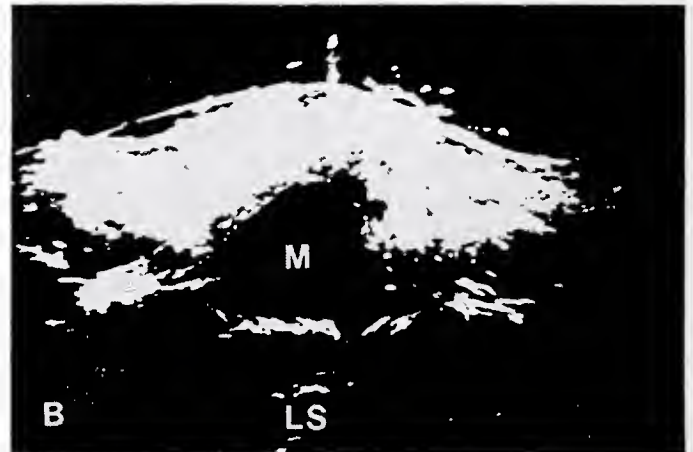
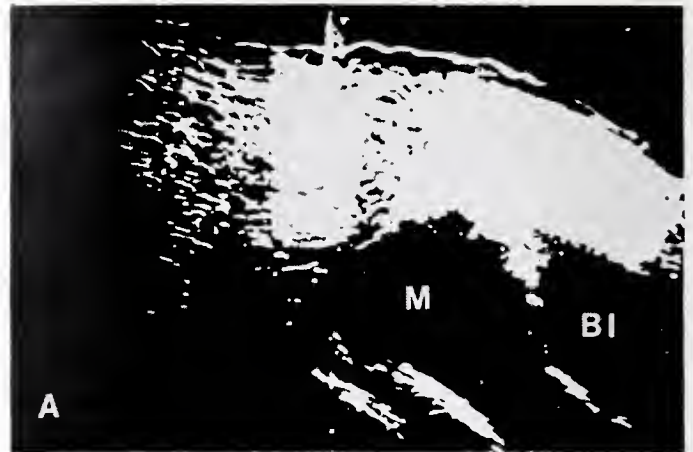


Figure 11.
Uterine Fibroid

Longitudinal A. and transverse B. scans outlining a large sonolucent mass (M) behind the bladder (B1). LS is the lumbar spine. Although older fibroids usually contain many internal echoes, rapidly growing fibroids, such as this case, are usually sonolucent. Clinical correlation is important.

III. Gynecology

Pelvic mass lesions are generally first discovered by the physician on pelvic examination. An X-ray may detect calcification in a mass, and hence its etiology, but usually not. Diagnostic ultrasound can better ascertain the nature of most such lesions. Before doing the examination, it is important that the patient have a full bladder in order to partially push the pelvic organs out of the pelvis. As in all ultrasound studies, an understanding of the anatomy is imperative.

A large sonolucent lesion located lateral to the uterus is suggestive of an ovarian cyst. Midline lesions which fill with echoes are frequently fibroids of the uterus. (Fig. 11).

IV. Abdominal Scanning

A. Abdominal Aorta

Development of modern vascular surgical techniques has greatly improved the outlook for pa-

tients with aneurysms of the abdominal aorta. With better treatment the need for early and accurate diagnosis also becomes more important. Translumbar aortography and, more recently, transfemoral aortography have been the mainstays in the diagnosis of this condition. Not without morbidity and mortality themselves, though be it small, these procedures have on occasion been withheld until diagnosis via physical examination was relatively certain. As virtually no morbidity is associated with B-mode scanning, the procedure can be performed with impunity even in patients in whom the diagnosis is only remotely considered.

The patient is scanned in the supine position. The anterior abdominal wall is covered with a thin layer of mineral oil. Multiple longitudinal scans are performed at 2 cm. intervals on either side of the midline extending from the xiphoid process to the lower abdomen. Transverse scans are also made to cover the same area. When the

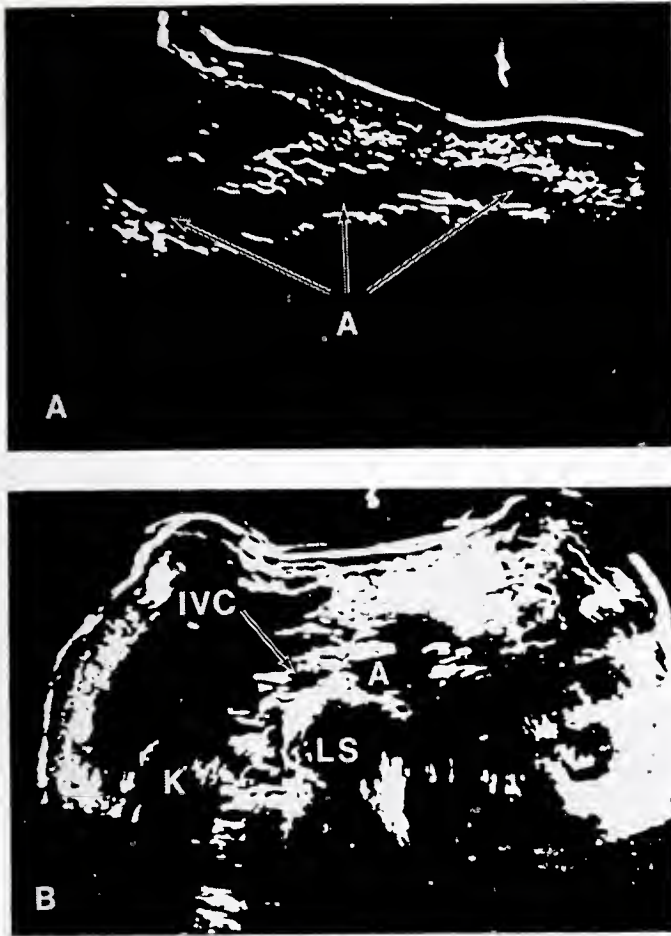


Figure 12.
Normal Aorta

The longitudinal scan (A) shows the normal aorta (A). Other normal structures are shown in the transverse scan B. These include kidney (K), inferior vena cava (IVC) and the lumbar spine (LS).

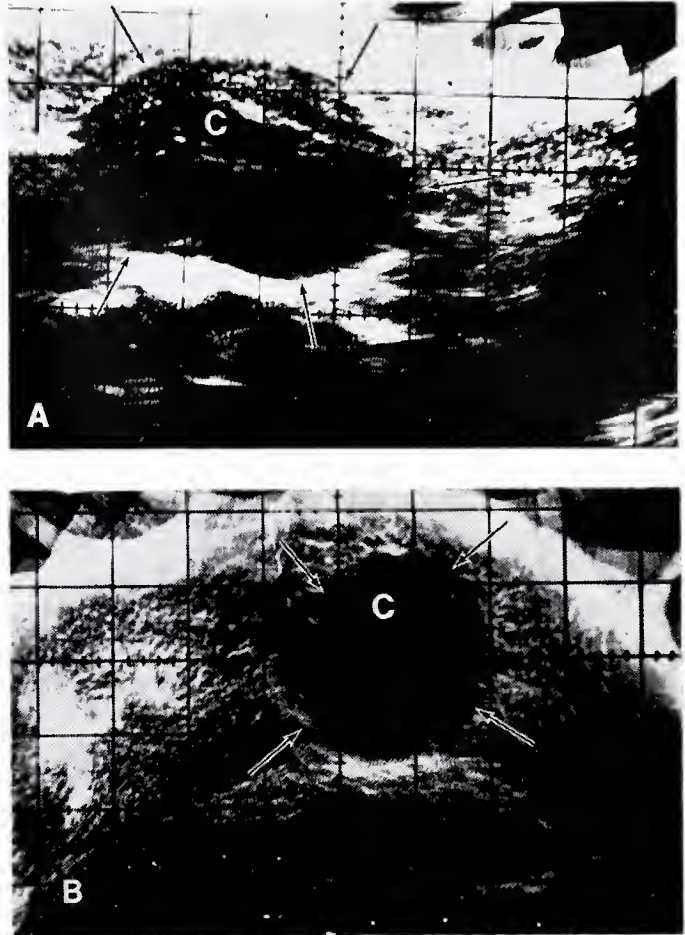


Figure 13.
Aortic Aneurysm

The longitudinal scan (A) demonstrates an 8 x 15 cm. aneurysm (arrows). The scattered echoes in the aneurysm (C) are blood clots. (B) is the transverse scan through the aneurysm.

suspected aneurysm is located additional scans are obtained to achieve the best possible detail.

Scans of a normal abdominal aorta are shown in Figure 12. The upper limits of normal for the external diameter of the abdominal aorta is 3 cm. This will vary somewhat depending upon the size of the patient. The acoustical impedance of the elastic walls of the aorta is considerably different from the blood within the vessel and this produces nice echoes. With the appropriate longitudinal section the aneurysm can easily be identified (Fig. 13). Great accuracy is possible measuring the size of an aneurysm because there is no magnification of the image as with X-rays. In transverse scans the aorta will be seen slightly to the left of the midline and anterior to the lumbar spine. Scattered echoes will sometimes be seen within the aneurysm. These are thought to be reflections from clots within the aneurysm.

The aorta normally lies no more than 0.5 cm. anterior to the spine as seen on scans. Occasion-

ally, hypertrophic spurs will push the aorta farther forward. In the event that spurs are not present in an aorta located too far forward of the spine, other retroperitoneal processes should be searched for. These include hematomas, tumors, and abscesses.

It is our policy after making the diagnosis of aneurysm of the abdominal aorta to recommend an aortogram prior to surgery to better outline the abnormal anatomy for the surgeon.

B. Renal Scanning

Renal mass lesions are frequently encountered in clinical particularly in older patients. The majority of these lesions are simple renal cysts, (Fig. 14), and require no further treatment after establishing the diagnosis. It is our practice to do ultrasound on renal mass lesions. If cystic in nature a renal cyst puncture is carried out and a contrast study is done on the cyst. A solid renal mass lesion is studied immediately

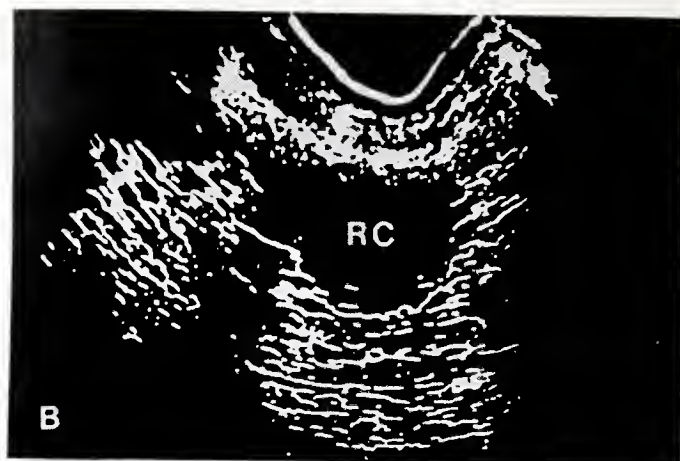
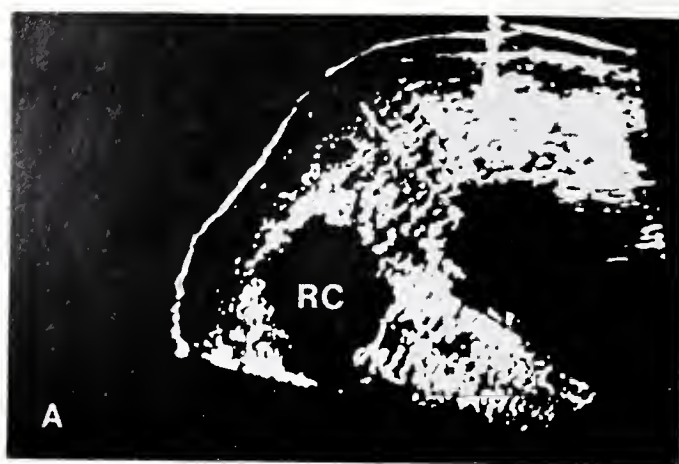


Figure 14.
Simple Renal Cyst
The transverse scan (A) demonstrates a sonolucent mass lesion

in the region of the kidney. This was shown to be a simple renal cyst (RC). The longitudinal scan (B) also shows the cyst. Note the patient's deformed back.

via angiography. Thus most of the patients with renal mass lesions are spared angiography.

Ultrasound is also valuable in differentiating hydronephrosis from tumor in a large, nonfunctioning kidney.

The advent of renal transplants has found yet another use for ultrasound. One of the earliest signs of renal rejection is swelling of the kidney. This is easily detected by the ultrasonic scan.

C. Liver and Spleen Scanning

Being rather homogenous organs, the liver and spleen are suitable for scanning. Lesions greater than 2 cm. in diameter can be detected with some regularity. These include tumors, abscesses, and hematomas. Gallstone diagnosis with ultrasound has been studied, but found to be only partially successful.

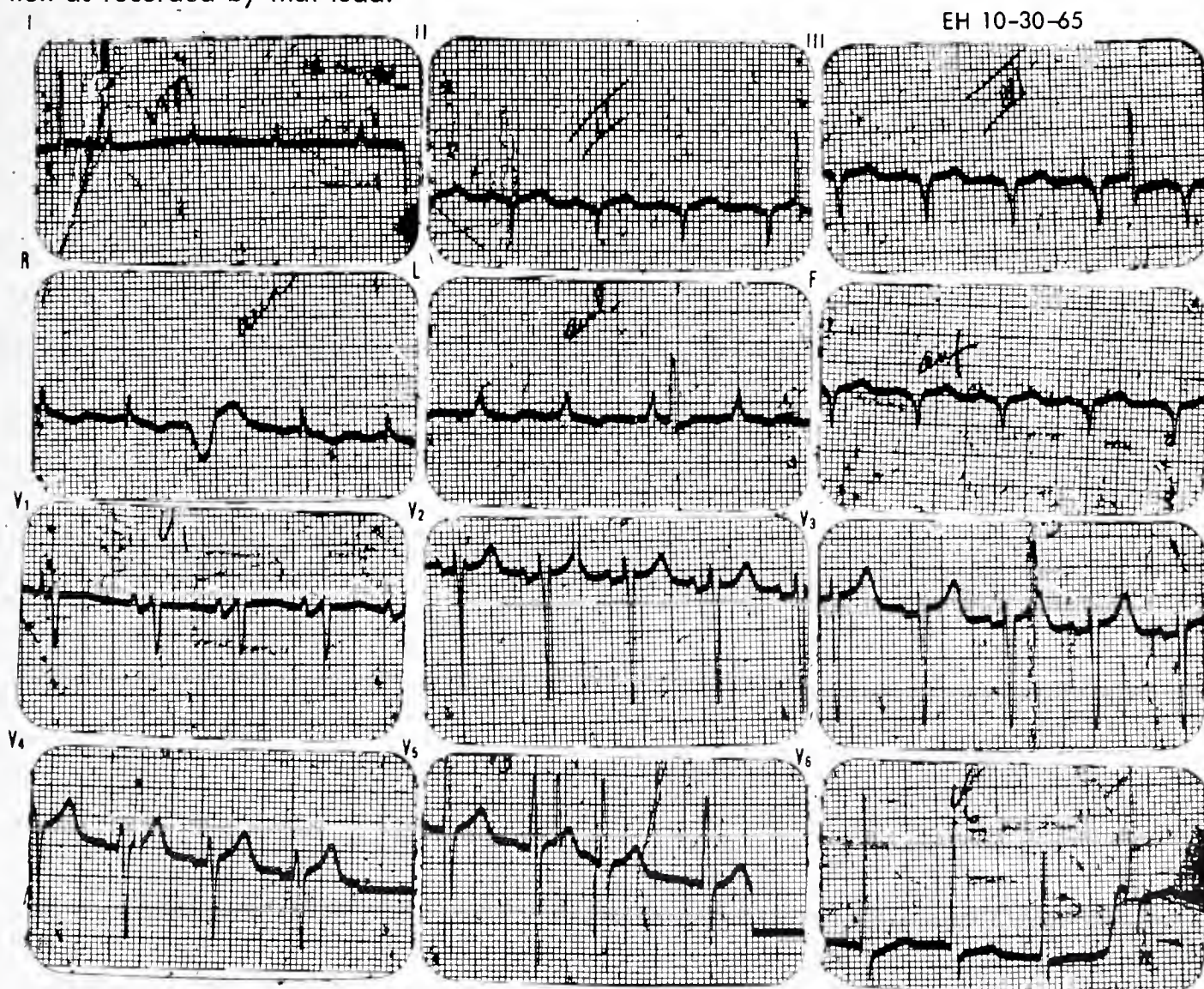




The Department of Cardiology, University of Arkansas Medical Center

(See Answer on Page 149)

EH — The electrocardiogram of 10/30/65 demonstrates a frontal plane axis of 55 degrees, a combined voltage of the S in V2 and the R in V6 of about 44 mm, and relatively low T wave in V6 suggesting the presence of left ventricular enlargement. The possibility of an inferoposterior myocardial scar was raised when the QR complex in a VF was noted and the question of a QR complex in lead III was raised. The question of left atrial enlargement was raised by the negative component of the P wave in V1 exceeding 1 mm in depth and exceeding .05 sec in duration. The early R¹ in V2 should be noted. Note that the total duration of the QRS complex is not prolonged and that R¹ occurs less than .08 sec from the onset of ventricular activation as recorded by that lead.



Robert T. Bulloch, M.D.

Professor of Medicine

Chief, Cardiology Section

University of Arkansas Medical Center

Little Rock, Arkansas 72205

"WANTED"

ONE FAMILY PHYSICIAN

To join four G.P.'s in a new clinic, fully staffed and well-equipped.

Located in the beautiful Arkansas River Valley. Plenty of water and wilderness for all outdoor enthusiasts. Contact:

Ed Wight
Dardanelle Clinic
Drawer L
Dardanelle, Arkansas 72834
Phone: 501 229-4172

ASSOCIATE WANTED

For Family Practitioner. Office fully equipped with laboratory and x-ray. If interested contact:

David L. Lockhart, M.D.
Post Office Box 70
Forrest City Arkansas 72335
Phone: 501 633-1243 Office
501 633-8383 Home

Medical Personnel Needed

Dedicated Health Professionals needed to serve the Developmentally Disabled at the Arkansas Children's Colony, Conway, Ark.

Immediate openings for:

Medical Services Administrator
— House furnished — Salary Open.

Staff Physician — Salary Open.

Please contact Hurlis V. Graham, Suite 300, Professional Bldg., No. Little Rock, Ark. 72116. Telephone: 501-371-1268.



Pro-Banthine®

brand of
propantheline bromide

Indications: Pro-Banthine is effective as adjunctive therapy in the treatment of peptic ulcer. Dosage must be adjusted to the individual.

Contraindications: Glaucoma, obstructive disease of the gastrointestinal tract, obstructive uropathy, intestinal atony, toxic megacolon, hiatal hernia associated with reflux esophagitis, or unstable cardiovascular adjustment in acute hemorrhage.

Warnings: Patients with severe cardiac disease should be given this medication with caution. Fever and possibly heat stroke may occur due to anhidrosis.

Overdosage may cause a curare-like action, with loss of voluntary muscle control.

For such patients prompt and continuing artificial respiration should be applied until the drug effect has been exhausted.

Diarrhea in an ileostomy patient may indicate obstruction, and this possibility should be considered before administering Pro-Banthine.

Precautions: Since varying degrees of urinary hesitancy may be evidenced by elderly males with prostatic hypertrophy, such patients should be advised to micturate at the time of taking the medication.

Overdosage should be avoided in patients severely ill with ulcerative colitis.

Adverse Reactions: Varying degrees of drying of salivary secretions may occur as well as mydriasis and blurred vision. In addition the following adverse reactions have been reported: nervousness, drowsiness, dizziness, insomnia, headache, loss of the sense of taste, nausea, vomiting, constipation, impotence and allergic dermatitis.

Dosage and Administration: The recommended daily dosage for adult oral therapy is one 15-mg. tablet with meals and two at bedtime. Subsequent adjustment to the patient's requirements and tolerance must be made.

How Supplied: Pro-Banthine is supplied as tablets of 15 and 7.5 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type vials of 30 mg.

SEARLE

Searle & Co.

San Juan, Puerto Rico 00936

Address medical inquiries to: G. D. Searle & Co.
Medical Department, Box 5110, Chicago, Ill. 60680 481

main purpose of drug information for the patient is to get his cooperation in following a drug regimen.

Preparation and distribution of patient drug information

We would hope to amass information from physicians, medical societies, the pharmaceutical industry and centers of medical learning. The ultimate responsibility for uniform labeling must, however, rest with the Food and Drug Administration. There is nothing wrong with this agency saying, "this information is generally agreed upon and therefore it should be used," as long as our process for getting the information is sound.

Distribution of the information is a problem. In great measure it would depend on the medication in question. For example, in the case of an injectable long-acting progesterone, we would think it mandatory to issue two separate leaflets—a short one for the patient to read before getting the first shot and a long one to take home in order to make a decision about continuing therapy. In this case, the information might be put directly on the package and not removable at all. But for a medication like an antihistamine this information might be issued separately, thus giving the physician the option of distribution. This could preserve the placebo use, etc.

It is in the distribution of patient information that the pharmacist may get involved. As professionals and members of the health-care team and as a most important source of drug information to patients, pharmacists should be responsible for keeping medical and drug records on patients. It is also logical that they should distribute drug information to them.

Realistic problems must be considered

We have to expect that the introduction of an information device will also create new problems. First, how can we communicate complex and sophisticated information to people of widely divergent socioeconomic and ethnic groups? Second, what will we say? And third, how can we counteract the negative attitude of many physicians toward any outside influence or input? Hopefully the medical profession will respond by anticipating the problems and helping to solve them. Assuming we can also solve the difficulty of communicating information to diverse groups throughout the United States, our remaining task will be the inclusion of appropriate material.

What information is appropriate?

In my opinion, technical, chemical and such types of material should not be included. And there is

no point in the routine listing of side effects like nausea and vomiting which seem to apply to practically all drugs, unless it is common with the drug. However, serious side effects should be listed, as should information about a medication that is potentially risky for other reasons.

Other pertinent information might consist of drug interactions, the need for laboratory follow-up, and special storage requirements. What we want to include is information that will help increase patient compliance with the therapy.

Positive aspects of patient drug information

Labeling medication for the patient would accomplish a number of good things: the patient could be on the lookout for possible serious side effects; his compliance would increase through greater understanding; the physician would be a better source of information since he would be freer to use his time more effectively; other members of the health-care team would benefit through patient understanding and cooperation; and, finally, the physician-patient relationship would probably be enhanced by the greater understanding on the part of the patient of what the physician is doing for him.

Only the doctor can remove that fear by 20 or 30 minutes of conversation.

I'm not suggesting that we withhold any information from the patient because, first of all, it would be totally dishonest and secondly, it would defeat the very purpose of the insert. I do think that a patient on the birth control pill should know about the incidence of phlebotrombosis.

If you're going to tell a patient the incidence of serious adverse reactions, then you have to tell him that a concerned medical decision was made to use a particular medication in his situation after careful consideration of the incidence of complications or side effects.

Emotionally unstable patients pose a special problem

There are patients who, because of severe emotional problems, could not handle the information contained in a patient package insert. Yet if we are going to have a package insert at all, we just can't have two inserts. I think we might simply have to tell the families of these patients to remove the insert from the package.

Legal implications of the patient package insert

Just what effect would a pa-

tient package insert have on malpractice? We could try to avoid any legal implications by pointing out that the physician has selected a particular medication because, in his professional judgment, it is the treatment of choice. For instance, you can't tell everyone taking antihistamines not to work just because a few patients develop extreme drowsiness which can lead to accidents. And what about the very small incidence of aplastic anemia rarely associated with chloramphenicol? If, based on sensitivity studies and other criteria, we decide to employ this particular antibiotic, we do so in full knowledge of this serious potential side effect. It's not a simple problem.

How do we handle an insert for medication used for a placebo effect?

With rare exceptions, physicians no longer use medications for a placebo effect. This question does raise the issue of how a patient may react to receiving a medication without a package insert.

Preparation of the package insert

The development of the insert ought to be a joint operation between physicians, the pharmaceutical industry, the A.M.A. and the F.D.A.

I view the A.M.A.'s role as a coordinator or catalyst. It is the only organization through which the profession as a whole, irrespective of specialty, can speak. It has relatively instant access to all the medical expertise in this country. And it can bring that professional expertise together to ensure a better package insert. The A.M.A. can work in conjunction with the industry that has produced the product and which is ultimately going to supply the insert.

I don't think we should rely, or expect to rely, on legislative committees and their nonprofessional staffs to make these decisions when it is perfectly within the power of the two groups to resolve the issues in the very best American tradition—without the government forcing us to do it. I think the F.D.A. has to be involved, but I'd like them to become involved because they were asked to become involved.

Pharmaceutical
Manufacturers Association
1155 Fifteenth Street, N.W.
Washington, D.C. 20005





Office Orthopaedics

Basics of Physical Therapy

Leighton Millard, M.D.*

Physical therapy is a valuable adjunct in treatment and prevention of skeletal deformities. There is a large mass of information available on physical therapy and its benefits in treatment of neuromuscular disorders, cardio-respiratory problems, paralytic diseases, and deformities associated with trauma. This article will cover only basic modalities and some of the applications.

It is very important for all physicians to utilize the knowledge and expertise of qualified physical therapists. We must supervise and direct treatment and avoid overtreatment.

THERAPEUTIC HEAT

Local heat is probably the most universal and valuable modality of physical therapy. Besides producing immediate increase in temperature, it produces an increased local metabolism that, in turn, causes increased blood flow and capillary pressure. This allows dissipation of the heat throughout the tissues, but *may* produce edema. The local heat also causes analgesia. The exact physiological mechanism of this effect is poorly understood at this time. The indications for local heat can be summed up as follows:

1. To get analgesia
2. To produce increased skin blood flow
3. Accelerate suppuration
4. Sedation

Important contraindications to local heat application are:

1. Proximal obstruction to blood flow
2. Impaired sensation
3. Edema not caused by infectious process — (heat increases edema)

4. Very young patient, because of:
 - a. Poor communication
 - b. Poor thermal regulating center
5. Very old patient, because of:
 - a. Poor circulation and sensation
 - b. Poor cardiac reserve; the heart is strained by reflex vasodilatation
6. Sedated patient

THERAPEUTIC HEAT DEVICES

Conductive heating depends on the transfer of heat from one body to another. The rate of heat exchange depends on the temperature differential and the quantity of heat exchange is dependent on time. A good rule of thumb to remember is that safe maximum exposure (or time of treatment) is thirty minutes close contact to a surface of 45°C (113°F).

Convective heating is an exchange of heat between a surface and a moving fluid.

Some examples of conductive heating, with associated dangers, are as follows:

Electric Heating Pad

Dangers:

1. Temperature is constant.
2. If under body weight, decreased blood flow yields decreased sensation and burn can result.

Hot Water Bottle

Dangers:

1. Hot water bottle equals one liter of water at 65°C (149°F).
2. Skin shows irreversible damage at this heat after only one second, so it needs insulation. Therefore, there is inefficient dissipation of heat; it must be refilled often, and people tend to use too hot.

*Little Rock Orthopedic Clinic, P.A., Post Office Box 5270, Little Rock, Arkansas 72203.

Advantage:

Doubles as an enema bag.

Infrared

Advantages:

1. Clean
2. Part treated can be seen
3. Permits elevation of part (decreases edema)
4. Easy control of amount of heat
5. Easy use in home

Disadvantages:

1. Dries the skin
2. Bulbs break and burn the patient
3. Small area of heating
4. Superficial heating

The most efficient device for applying local heat is convective, i.e., agitated hot water baths. It is most often recommended that an extremity be immersed for 20-30 minutes at a temperature of 40-43°C (104-109.4°C). The normal skin will burn at 47°C.

Hot or moist air baths have been found to be impractical and inefficient. They also produce more chilling than conductive or convective methods.

THERAPEUTIC COLD

Cold applications are also a beneficial modality of physical therapy. Cooling of tissues produces decreased metabolism, vasoconstriction, and decreased edema. Also lowering of the core temperature of the body (affecting the hypothalamus) induces shivering thereby increased heat production. This cold-heat effect helps to reduce muscle spasm, remove excess fluids from tissues, and preserve viability of tissues if circulation is impaired. Cooling of muscle produces temporary weakness. One word of caution: do not use icing treatment on a gangrenous limb unless amputation is planned and patient consent has been obtained. Under these conditions icing can reduce toxic effects of gangrene but won't "save a limb."

A. Methods of Therapeutic Cooling

1. Immersion: Start with cold H₂O and add ice 10-20 minutes. 10-18°C may reduce spasticity.
2. Cold Packs: Ice in wet towels or plastic bags. Reusable cold packs — must not be put directly on skin.

B. Cryokinetics

Ice massage (for analgesia) followed by ac-

tive range of motion to mobilize joints. Combination of local cooling and remote heating. Remote heat prevents shivering and augments local cooling (not clinically very effective) — takes two people to do.

- C. Alternating hot and cold packs seems to "confuse" nerves and vessels and decrease edema and pain and allow more freedom of active motion of an injured part.

DEEP HEATING

Heating by conversion occurs when energy is applied to the deeper layers of tissue. Thus, conversion heating is beneficial in relief of secondary muscle spasm and pain, and makes tendons, ligaments, and scars yield more readily to stretching forces. Diathermy, microwave, and ultrasound are efficient methods of delivering deep heat. Short wave diathermy and microwave must be used with care. Some contraindications, in addition to local burning are:

1. Sensory impairment
2. Debilitated or confused patient
3. Surgical metallic implants
4. Ischemic areas
5. Pregnancy

Ultrasound is the easiest, most practical application of deep heat. An acoustic vibration of 12,000 cycles per second at 0.8 to 1 megacycles is delivered to the body through an insulating layer of ointment. This produces both thermal and non-thermal reactions in deeper tissues.

Thermal Reaction:

1. Peripheral arterial blood flow is increased
2. Hyperemia and edema
3. Temporary blocks in peripheral nerve conduction can be produced
4. Elevation of pain threshold
5. Muscle spasm can be relieved
6. No effect on growing, adult or healing bone from therapeutic dose. Excessive dose may produce a pathologic fracture in osteoporotic bone.

Non-Thermal Reaction:

1. Acceleration of diffusion process of membranes (decreased edema).
2. Gaseous cavitation can occur — but not at therapeutic levels and with pressure on the applicator. (Cavitation — pockets of gas in tissue expand producing pain.)

Conditions in which ultrasound is established:

1. Joint Contractures — ultrasound first then

active range of motion

2. Relief of pain and spasm

Conditions in which ultrasound is of suggested value:

1. Poliomyelitis
2. Paralysis due to polymyositis
3. Scarring of skin due to trauma, burns, or scleroderma
4. Calcific bursitis and tendinitis
5. Phantom limb with or without pain
6. Reflex dystrophy — Sudeck's, Shoulder-Hand-Syndrome, etc.
7. Ankylosing Spondylitis — doubtful

THERAPEUTIC EXERCISES

The act of carrying a joint through a normal range of motion depends on muscle power (active range of motion) and flexibility of ligaments. Careful instruction and assistance by a qualified physical therapist enables a patient to "limber up" a stiff joint and to relieve edema. Active exercise is therefore important (within limits of pain) in regaining function of an injured extremity. Passive range of motion (stretching), done by a skilled therapist is of great advantage in relieving stiffness of joints related to amputation or paralysis.

Muscle strengthening exercises should be instituted after the joint has regained normal motion. This can be done by active resistance by the therapist (known as resistive exercises) or by weight lifting. Best results are obtained when specified weighted range of motion exercises are directed to a specific muscle or group of muscles. As the weight or resistance is increased, the muscle strength increases.

AFTER-CARE OF FRACTURES

Edema from bleeding is the most common cause of disability following fractures. The increased blood and tissue fluids are absorbed if venous return is re-established early. However, persistent swelling (7-10 days) leads to organization, scar, and permanent disability. Therefore any muscle action the patient can do while casted will be of great benefit since muscle action enhances venous function. Elevation of the extremity not only relieves pain but assists venous return.

This treatment of edema begins with prevention and continues with other modalities after the cast is removed. Heat, cold, or combinations; massage and exercise then will en-

able the injured extremity to return to function (hopefully normally).

THE PRESCRIPTION

The qualified and conscientious physical therapist needs and welcomes supervision and direction of treatment. Therefore the prescription for physical therapy should contain the following information and should be individualized for each patient.

Heat:

Type and duration

Area and position of body

Massage:

Stroking or

Kneading or

Friction

Electrostimulator:

Number of surges per minute

Number of contractions per session

Number of sessions per day and how many days

Therapeutic Exercise:

Passive:

Relaxed — seldom

Stretched

Active Assistive:

Active

Resistive —

Relaxation

Strengthening

Re-education

Coordination

Indicate: Where, When, How Often, and How Long

In addition, if protected weight bearing on a lower extremity is indicated, be specific as to percentage of body weight allowed. (It is generally accepted that 10% weight bearing on a leg is *only* supporting the weight of that leg.)

SUMMARY

Physical therapy if applied in an orderly logical manner, is a valuable medical treatment. It should be respected and used carefully. If combinations of heat, cold, and exercise are carefully balanced and fitted to each patient's needs, many deformities can be prevented or corrected. I feel it is important to use physical therapy to ease symptoms in patients, but it is just as important not to *overuse* it. The physician and therapist should evaluate the results of treatment at frequent intervals and not hesitate to stop treatment if no benefits are evident.



Safety Education as Preventive Medicine

Miss Norma C. Clark*

Falls, fires and poisonings follow motor vehicle accidents in number of fatalities. Since these three types of accidents frequently occur in the "sanctuary" of homes and since we have most direct responsibility and ability to influence our own home environment, it may well behoove the medical profession to practice preventive medicine in safety education.

In dealing with patients whose home environments may pose special problems for family members, the physician may wish to incorporate safety education into doctor-patient conferences.

Special situations which may call for this type of counseling prescription could include new mothers, those who care for the handicapped or elderly, the accident-prone repeater, the do-it-yourselfer, mothers of active toddlers and individuals whose limited backgrounds or drastically changed life-styles expose them to new or unknown hazards.

Naturally the physician is far too busy to review with each accident- or potentially accident-prone patient all the "do's" and "don'ts" of day-to-day living. He can call on the wide range of publications and services available in safety education. Many communities have courses in home safety and child care which incorporate safety habits, furnishing, and storage of household chemicals and medications. First aid, shop safety, bicycle and playground safety training is available in many forms. Fire prevention programs are in need of strong backing by physicians, who, too often, deal with burns resulting from fires which could have been prevented.

In the same way that publications are used to inform patients in preventative medicine areas such as nutrition, immunization, family planning

and chronic disease control, so a ready supply of safety education materials are available to the inquiring physician.

In Arkansas, each county health unit has a list of health education literature available from the Arkansas Department of Health. Additional sources of safety publications include Cooperative Extension Offices, insurance companies, commercial companies which manufacture materials pertinent to safe living and various government agencies concerned with safety.

Motivation of the patient or family to improve their home environment is a task no publication can perform without the efforts of a concerned human being. To the accident victim the person who has the greatest impact on his mind, as one who is genuinely working for his benefit, is probably the doctor or a member of his medical staff who has cared for the patient in a personal way. The rapport established can carry over to motivate behavior change.

To the new mother, her obstetrician or pediatrician is a dependable authority figure she respects as he guides her in becoming accustomed to her new role and responsibilities. To the family caring for an elderly person who has always been looked up to, rather than protected, it may take a different approach to alert them to changes needed due to fragile bones, dimmed eyesight or poorer coordination.

The active toddler is a problem in many ways besides keeping him safe. A mother of such a youngster may not realize just how mobile and agile her child is and may emphasize "putting things out of reach" over necessary watching and discipline. Of course, many households have "traditional" storage places for chemicals such as closets, kitchen cabinets and garages. Exploring

*Public Health Educator, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.

toddlers find opportunity to fall, to start "experimental" fires, and to "taste" poisonous materials.

People who are new in an environment need help in adjusting to the hazards, as well as learning the joys, of their new experience.

If you practice in a city, be prepared for those who are unaccustomed to the fast pace, the mechanical conveniences, and the traffic patterns of streets and buildings.

Physicians in rural areas need to be prepared for those who don't know the signs of insect, snake and animal hazards or are apt to attempt physical exploits which are unsafe for the novice.

Local medical personnel of all types may decide to encourage the establishment of safety information centers at locations likely to be encountered by newcomers. Possible locations may be shopping centers, Chamber of Commerce of-

fices, employment and personnel offices, real estate offices, sporting goods stores and hardware stores.

Individuals who engage in do-it-yourself projects or who are embarking on a new hobby or sports activity should be encouraged to initiate their new venture under the supervision or guidance of a safety-conscious veteran of that type of activity.

Physicians are in the best position to see the need for specific types of safety education in their locale. They can best prescribe the counseling and referral needed by their potential accident patients.

When physicians are able to see as dramatic an improvement in accident prevention as they have produced in prevention of communicable disease, we shall all be the benefactors.



EDITORIAL

Hormones and Target Tissues

Alfred Kahn, Jr., M.D.

The endocrine activity of some tissues has come as a rather unpublicized development in the endocrine-metabolic field. Physicians are well attuned to conventional endocrinology including such glands as the thyroid, pituitary, ovaries, etc. For example, hair follicles have been demonstrated to have an endocrine function. Schwerkert, Milervich, and Wilson (Journal of Clinical Endocrinology and Metabolism, Volume 40, page 413, March 1975) have published on "Aromatization of Androstenedione in Isolated Human Hairs." They state that the root of human hair convert both testosterone

and androstenedrone to more powerful substances; these two substances also serve as the basic material for the manufacture of estrogens by some peripheral tissues. Hairs were studied from both the scalp and pubic region of men. Their studies demonstrated that the hair root could convert androstenedrone to estrone by aromatization. The significance of these conversions in the body's physiologic setting is not currently known.

"Regulation of Human Hair Growth by Steroid Hormones, Testosterone Metabolism in Isolated Hair" is an interesting investigation by

Schweikert and Wilson (*Journal of Clinical Endocrinology and Metabolism*, Volume 38, page 811, May 1974). They point out four relationships between hair and sex hormones: (1) Growth of beard and trunk hair by androgen in high concentration, (2) Auxiliary and pubic hair growth by hormones at puberty, (3) There are hairs which have no hormone relationship as eyebrows, (4) Baldness can be due to androgens. Schweikert and Wilson further point out that hair goes through certain growth phases and studies of hair have to be made with this in mind. They also emphasize that testosterone, which is a basis of this study, should be considered a pro-hormone that is carried to certain tissues in the blood stream and there converted to the potent hormone as dehydrotestosterone. The authors found that hair roots can form 5 A reduced and 17 ketosteroids. However, there was no relationship between the capacity to form dehydrotestosterone and the androgen mediated growth of hair. With regard to baldness, Schweikert and Wilson did find an interesting thing; balding men had an increase 5A reduction of testosterone compared to women and non-balding men; hair taken from the bald spot in the same individual showed more 5A reduction than from non-bald sites. They did not know if the

higher enzymatic activity was a cause or an effect.

Estrogens may be derived from androgens. It is speculated that the principal sources of estrogens in post menopausal women are androgens. Writing in the *Journal of Clinical Endocrinology and Metabolism*, Volume 40, page 367, March 1975, Nimrod and Ryan have reported on "Aromatization of Androgens by Human Abdominal and Breast Fat Tissues." They concluded that fat could convert circulating androgens into estrogens. The ability of breast fat was compared to fat elsewhere in the body as an aromatizing agent; there was no preferential ability of breast fat over fat from elsewhere. Also tested was fat from breasts containing carcinoma; these breasts converted androgens to estrogens at a similar rate to normal breast fat. Nimrod and Ryan were surprised that lipocytes could have this chemical function — i.e. enzymatic reaction — in the presence of fat in the lipocyte; nevertheless, the activity is present and apparently not disturbed by the fat.

These papers afford an interesting insight into target tissue reactions. The target tissue may not be just a passive recipient. It may alter the hormone drastically — and the altered hormone may have a diverse effect, a potentiated effect, or a reduced effect.



O B I T U A R Y

Dr. Hoyt Kirkpatrick, Jr.

Dr. Hoyt Kirkpatrick, Jr., of Fort Smith, died June 21, 1975, at the age of fifty-three. He was born in Fort Smith, December 9, 1921. Dr. Kirkpatrick was a 1945 graduate of the St. Louis University School of Medicine.

Dr. Kirkpatrick was an Orthopedic Surgeon associated with Holt-Krock Clinic in Fort Smith. He was 1975 president of the Sebastian County Medical Society. Dr. Kirkpatrick was a veteran of World War II and was discharged as a Lieu-

tenant Commander in the United States Navy. He was team physician for both high schools in his community and was an active supporter of both booster clubs.

His professional memberships include the Arkansas Medical Society, Sebastian County Medical Society, American Medical Association, Southern Medical Association, Arkansas Orthopaedic Society, American Board of Orthopedic Surgery, American Academy of Cerebral Palsy, International Association of Arthroscopists, Association of Tumor Clinics, and the Orthopedic Letters Club. Aside from his medical work, Dr. Kirkpatrick was on the lecture faculty of the University of Arkansas Law School and the University of Oklahoma Law School.

Dr. Kirkpatrick is survived by his wife, Betty; one daughter, Terry; and four sons, Neal, Dennis, Michael, and Kelly.

MEDICINE IN THE



THE MONTH IN WASHINGTON

The American Medical Association has urged all members of the House of Representatives to oppose two key provisions of a health manpower bill that would extend federal control over medical education.

The controversial sections of the bill that won easy passage in the House Interstate and Foreign Commerce Committee would:

- **Establish federal control of the number and location of medical residencies.
- **Require all medical students to repay the federal government for U. S. aid to the school.

In a letter dispatched to the 435 lawmakers in the House, the AMA stressed continued support for federal assistance to medical schools and students. However, the Association said "strong objection is raised" to "certain new concepts" that would impose restrictions on students and on residencies.

The health manpower bill won approval by the House Commerce Committee with the two disputed provisions by roughly a 2-1 margin. The bill authorizes \$1.7 billion for aid to medical, dental, nursing and other schools with a \$2,100 per student capitation subsidy by the federal government for medical students.

A House vote is expected about mid-summer. The Senate has not yet considered the bill.

The AMA told House members:

"These requirements — that the students, as a personal obligation, repay to the federal government those amounts which the government has given to the schools — are without precedent and are discriminatory against health professions' students. These conditions are not imposed on students in other fields, nor should they be. This amounts in effect to a forced loan required of all health professions' students under the bill. Once again, through the service requirements attached to the loan forgiveness features, the low income or disadvantaged student would carry a disproportionate burden. "The best way to at-

tract individuals to shortage areas," according to AMA, "is through mechanisms which allow the individual voluntarily to commit himself to service in a needy area. As to government programs, this could be done through such programs as the National Health Service Corps, scholarships for service in shortage areas, loan forgiveness, or other incentive programs.

"It should not be done through a program where all students are under the burden of insuring that the federal assistance given to the school is repaid by the student," the AMA said.

The proposed control of medical residency training programs amounts to "the rationing of medical education . . . and poses many threats to our quality education system," according to the AMA.

The bill would establish two agencies: one would be responsible for accrediting medical residency training programs in the U. S.; the other to establish the number of positions which could be filled in each residency program .

The aggregate limit on the number of positions which could be available in years 1978, 1979, and 1980, would be an amount equal to 155 percent, 140 percent and 125 percent, respectively, of the estimated number of graduates from accredited U. S. schools of medicine in the year preceding.

Priority for designation would be the Liaison Committee for Graduate Medical Education of the Coordinating Council on Medical Education (CCME) as the accrediting agency, and the CCME as the agency to establish the number of residency positions. The latter agency would determine the geographic distribution of residency training positions, the number of positions in each program, and an allocation of positions among the various specialties. In the absence of designation of the named agencies, the activities would be undertaken by another organization designated by the HEW secretary.

Included with the AMA letter to the Congressmen was a copy of an article in the Journal

of the Tennessee Medical Association by Tom Nesbitt, M.D., Speaker of the AMA House of Delegates and Chairman of the CCME. Dr. Nesbitt wrote that a question posed by the legislation is "of the private voluntary sector remaining voluntary, as opposed to its becoming an arm of the federal government, subject to its bureaucracy and its political influences and controls."

But the fight of the AMA and other medical organizations, including the Association of Medical Colleges, to strike or limit the two controversial sections of the bill appears to be an uphill battle.

If the sweeping service requirement of the bill is retained, the impact on American medical practice would be marked with more than 10,000 young physicians yearly heading into rural areas, inner-city slums, and other shortage areas. Furthermore, the federal government—military, public health service and Veterans Administration—would have recruiting worries erased.

* * * *

Aroused by growing complaints besides those of the AMA that government is superseding Congressional intent in issuing control regulations in the Medicare program, the House Ways and Means Committee has slated an unusual one-day session to "examine these policies."

The so-called "public oversight" session will deal with the controversial Utilization Review Regulations under court challenge by the AMA (the first round won by the AMA May 27, 1975), the proposed rules governing Medicare reasonable charges and economic indices, reduction of inpatient payment for hospital routine service costs from the 90th percentile to the 80th percentile, and elimination of the special nursing differential for reimbursement to hospitals and skilled nursing facilities.

"Serious and widespread concerns have been raised about the policies in these regulations, including the question whether the special characteristics of small rural hospitals are adequately taken into account," said Subcommittee Chairman Dan Rostenkowski (D-Ill.). "The Subcommittee intends to examine these policies and their implementation in the light of Congressional intent relative to the conduct of the Medicare program."

The HEW Department's plan to tie physi-

cians' Medicaid reimbursement to a national economic index has been assailed by the AMA as "inequitable and unfair." The "invidiousness" of imposing economic controls on one sector of the economy "is intensified when consideration is given to the fact that the controls and limits on the government financial contribution towards payment of the medical care of a Medicare beneficiary set arbitrary limits on prevailing charges, and thus shift an increasing burden onto the Medicare beneficiary," said the AMA.

In a statement, AMA Executive Vice President James H. Sammons, M.D., urged that the regs be withdrawn. Dr. Sammons noted that the two-year time lag already involved in the recognition of physicians' fees "is in itself unique and has operated in such a way that Medicare fee recognition has long lagged behind current trends in physicians' fees."

There is no justification in either the law or its legislative history for the imposition of "a national economic index," said Dr. Sammons. The statement in the proposed regs that increases are to be "fair to all concerned and follow, rather than lead, any inflationary trends" is contradictory and "when considered in the context of the history of restrictions and limitations placed upon Medicare fees, is an affront to the physicians who have cooperated through a long period during which there has been imposition of arbitrary freezes and targeted economic controls," the AMA official said.

Also attacked by the AMA was the lower reimbursement limit for hospital Medicare costs, to be 80 percent from the present 90 percent. "The imposition of arbitrary ceilings on hospital revenues affects the quality of service available to Medicare patients" and may force some hospitals to treat Medicare patients at a loss, Dr. Sammons said.

"Fixing a ceiling limitation on reimbursement by bed size and location for all hospitals does not establish the existence—or lack—of efficiency," said the AMA. "This simplistic approach provides no assurance that inefficiency will be corrected or that efficient operations will be rewarded. The proposed system simply applies pressure to reduce per diem costs to a set dollar amount without regard to how such reductions may be attained, and appear to be pre-

dedicated upon ease of administration rather than the elimination of unnecessary costs flowing from inefficient operation."

* * * *

State legislators from across the nation meeting in Washington on malpractice were told that "massive federal intervention" would cause "irreparable harm," probably increase overall costs, lead to federal strings attached, and simply attempt to "paper the problem over with dollars."

HEW Assistant Secretary for Health, Theodore Cooper, M.D., told the National Conference of State Legislatures that he is confident the legislators "are not about to relegate to the U. S. Government the states' responsibility over insurance and medical practice."

The meeting was arranged by the National Conference and the newly formed Health Policy Center of Georgetown University to discuss malpractice insurance "as the perfect example of the need for federal-state coordination," in the words of Don Herzberg, Dean of Georgetown's graduate school.

The sponsoring organizations had hoped that some form of consensus and call for action might emerge from the three-day session, but the state lawmakers could only agree at this time that the situation was serious and that the remedies in sight appeared to be short-term ones. Several spoke of the difficulties in persuading consumer advocates in their state Legislatures that a crisis exists that affects patients as well as physicians or that legislative remedies were not aimed at bailing out hard-pressed insurance companies.

Dr. Cooper urged the states to enact new laws covering professional liability. He said there is need for public education to the fact that there are unavoidable limitations to medical care, that not all injuries are in fact malpractice, that people are not entitled to compensation simply because they have suffered.

* * * *

Legislation to require all clinical laboratories to meet specified federal standards is slated for a close Congressional look this year. Physicians' private office labs could be covered under draft legislation if work is done for more than one physician.

The measure backed by Sens. Jacob Javits (R.-N. Y.) and Edward Kennedy (D.-Mass.) gives some discretion to HEW on the sweep of the

standards coverage. However, all labs, including those now considered strictly intra-state, would have to meet federal standards.

The program would be administered at the state level by a single state agency which could issue licenses in the name of the federal government.

The Center for Disease Control, U. S. Public Health Service, would provide assistance and check on progress of state efforts, but a new HEW Office of Clinical Laboratories would be the chief supervisor.

The state programs could rely on professional accrediting and testing programs, but spot-checking and testing by the federal agency is authorized.

The licensing standards cover quality control, record-keeping, personnel, and participation in proficiency testing.

Many features of the legislation are certain to arouse controversy.

* * * *

The American Society of Internal Medicine (ASIM) has agreed to participate in the Federated Council for Internal Medicine — provided that policy decisions by the Council are made only by unanimous vote of the four member groups.

The Council would attempt to coordinate policies and actions of the four organizations in the internal medicine field — ASIM, the Association of Professors of Medicine, the American Board of Internal Medicine, and the American College of Physicians.

The ASIM agreement to participate came at its annual meeting in Washington.

According to a report by the ASIM's Board of Trustees, the Council has the potential to:

**Identify internal medicine as a unified community of physicians capable of collective action.

**Improve the quality of debate and decisions on major public issues of concern to internal medicine; and provide a medium to establish a consensus within the specialty in advance of public pronouncements.

ASIM also voted to support a national health insurance measure that would cover the costs of catastrophic illness. "This insurance should be supplied by private carriers to the greatest extent possible," the resolution declared.

Comprehensive coverage for all medical care

needs would be inflationary and add unnecessary stress to an already overburdened economy, according to the resolution.

E. Harvey Estes, M.D., Director of Duke University's Department of Community Health Sciences, was named "Distinguished Internist of the Year" by ASIM.

William R. Felts, M.D., an internist and rheumatologist practicing in Washington, D. C., was elected ASIM President-Elect. Dr. Felts is Director of the Division of Rheumatology at George Washington University Medical School. He has been one of the Society's Trustees since 1969 and served as Chairman of its Liaison Council. He will serve as President following the one-year term of Ralph F. Reinfrank, M.D., who assumed office during the meeting.

* * * *

Memorial Fund Established for Pharmaceutical Representative

Frank Tarlton, medical sales representative for Lederle Laboratories, was killed in a pedestrian accident on June 6, 1975, in Houston, Texas.

Mr. Tarlton had worked for Lederle for many years out of Hot Springs, Arkansas, covering central and western parts of the State.

Survivors include his widow, Delores, one son and two daughters, all of the home.

A Memorial Fund has been established to help finance the education of the three children. Checks for this fund will be accepted through December of 1975. All friends are urged to send their checks to: Tarlton Memorial Fund, c/o Grand National Bank, Post Office Box 1799, Hot Springs, Arkansas 71901.



ANSWER—Electrocardiogram of the Month

At postmortem examination the suspected left ventricular enlargement was found with a left ventricular free wall and septum weighing 333 grams. The right ventricle was also significantly enlarged with a right ventricular weight of 94 grams. An early R¹ in the right precordial leads, seen in the absence of total QRS prolongation may frequently tip off the possibility of right ventricular enlargement. A supporting clue is the rather impressive R in lead aVR. No evidence of any myocardial scarring was seen. The left atrial enlargement was presumably from mitral incompetence. The etiology of the heart disease in this case is not known.

THINGS



TO

COME

Exhibit A

SYNOPSIS

by

Joe M. Parker, M.D., *Publicity Chairman*
American Cancer Society, Oklahoma Division, Inc.

The Annual Arkansas-Oklahoma Cancer Forum presents an outstanding program developed in cooperation with Memorial Hospital and Sloan-Kettering Institute of New York City.

A day and a half concentrated discussion dealing with the practical management of various different types of cancer is planned.

* * * *

THE ANNUAL ARKANSAS-OKLAHOMA CANCER FORUM

Sheraton Inn, Ft. Smith, Arkansas

September 25-26, 1975

CURRENT CONCEPTS IN CARE OF THE CANCER PATIENT

Morning Session: Thursday, September 25, 1975

Chairman: Frank H. McGregor, M.D., President, Oklahoma Division, Inc., American Cancer Society, Oklahoma City

8:25- 8:30 Welcome and Opening Remarks — Frank H. McGregor, M.D.

8:30- 9:10 THE CLINICAL ROLE OF THE PATHOLOGIST IN THE MANAGEMENT OF PATIENTS WITH CANCER

Paul Rosen, M.D., Associate Attending Pathologist, Department of Pathology, Memorial Sloan-Kettering Cancer Center, New York City

9:10- 9:50 MANAGEMENT OF BENIGN LESIONS OF THE LOWER GI TRACT

Stuart Quan, M.D., Associate Attending Surgeon, Rectal and Colon Service, Department of Surgery, Memorial Sloan-Kettering Cancer Center, New York City

9:50-10:05 Intermission

10:05-10:45 **PRACTICAL MANAGEMENT OF PATIENTS WITH OVARIAN CARCINOMA**
James H. Freel, M.D., Assistant Attending Surgeon, Gynecology Service, Department of Surgery, Memorial Sloan-Kettering Cancer Center, New York City

10:45-11:25 **WHAT'S BEST FOR THE PATIENT**
Charles Kelley, M.D., Assistant Attending Radiation Therapist, Department of Radiation Therapy, Memorial Sloan-Kettering Cancer Center, New York City

11:25-12:05 **PSYCHIATRIC SUPPORT OF THE CANCER PATIENT**
Fred O. Henker, M.D., Associate Professor of Psychiatry, University of Arkansas Medical Center, Little Rock

Afternoon Session: Thursday, September 25, 1975
Chairman: Kent Westbrook, M.D., President, Arkansas Division, Inc., American Cancer Society, Little Rock, Arkansas

1:30- 2:10 **RESULTS OF BREAST SCREENING IN OKLAHOMA**
JoAnn Haberman, M.D., Ph.D., Director of Oklahoma Breast Screening Project and Associate Professor, Department of Radiology, University Health Sciences Center, Oklahoma City

2:10- 2:50 **SPECIMEN RADIOGRAPHY IN BREAST CANCER**
Paul Rosen, M.D.

2:50- 3:30 **RATIONALE FOR MANAGEMENT OF PATIENTS WITH POTENTIALLY CURABLE BREAST CANCER**
Guy F. Robbins, M.D., Attending Surgeon, Breast Service Department of Surgery, Memorial Sloan-Kettering Cancer Center, New York City

3:30- 3:45 Intermission

3:45- 4:25 **PRACTICAL MANAGEMENT OF PATIENTS WITH ENDO-**

METRIAL CARCINOMA
James H. Freel, M.D.

4:25- 5:05 **IMMUNO-THERAPY IN PEDI-
ATRIC PATIENTS WITH
MALIGNANCIES**
G. Bennett Humphrey, M.D., Chief Hematology-Oncology Service, Oklahoma Children's Memorial Hospital, Associate Professor, Department of Pediatrics, University of Oklahoma Health Sciences Center

Morning Session: Friday, September 26, 1975
Chairman: Robert Janes, M.D., President, Sebastian County Unit, American Cancer Society, Arkansas

9:00- 9:40 **MANAGEMENT OF MALIGNANT LESIONS OF THE LOWER GI TRACT**
Stuart Quan, M.D.

9:40-10:20 **WHAT'S NEW IN RADIATION THERAPY**
Charles Kelley, M.D.

10:20-10:35 Intermission

10:35-11:15 **WHAT'S NEW IN CANCER CHEMOTHERAPY**
Richard H. Bottomley, M.D., Head Oncology Division, Department of Medicine, University Hospital, University of Oklahoma Health Sciences Center

11:15-11:55 **READAPTATION OF CANCER PATIENTS TO SOCIETY**
Guy F. Robbins, M.D.

11:55 Adjournment

* * * *

Exhibit B

SYNOPSIS

by

Joe M. Parker, M.D., *Publicity Chairman*
American Cancer Society, Oklahoma Division, Inc.

The Annual Arkansas-Oklahoma Cancer Forum presents an outstanding program developed in cooperation with Memorial Hospital and Sloan-Kettering Institute of New York City.

A day and a half concentrated discussion dealing with the practical management of various different types of cancer is planned.

* * * *

**THE ANNUAL ARKANSAS-OKLAHOMA
CANCER FORUM**

**Sheraton Inn, Ft. Smith, Arkansas
September 25-26, 1975**

**CURRENT CONCEPTS IN CARE OF THE
CANCER PATIENT**

Specialists in the field of Pathology, Colon Surgery, Breast Surgery, Gynecologic Surgery, Radiotherapy, Chemotherapy and Immunotherapy will discuss recent advances in these fields.

The program also stresses Early Detection of Breast Cancer, Psychiatric Support of the Cancer Patient, and Rehabilitation of the Patient.

This superb group of specialists from New York will be supplemented by specialists from the Arkansas Medical Center and the University of Oklahoma Health Sciences Center.

The meeting will be held at the Sheraton Inn, Fort Smith, Arkansas, September 25 and 26, 1975. There is no registration fee.

Room reservations should be made by writing directly to the Sheraton Inn, Fort Smith, Arkansas 72901.

All members of the medical profession, registered nurses and medical students are urged to attend this informative meeting.



**Hot Springs Surgeon Serves on Faculty of
International Plastic Surgery Symposium**

D. Bluford Stough, III, M.D., Hot Springs dermatologic surgeon, was a major participant in the Second International Symposium on Plastic and Reconstructive Surgery of the Head and Neck, June 8-13, in Chicago.

Dr. Stough joined a faculty of more than 150 leading practitioners of plastic and reconstructive surgery from throughout the United States and fourteen foreign nations who led discussions and presented papers on the latest advances in head and neck plastic surgery. Attendance at the symposium was expected to exceed 1000 physicians, representing many medical specialties.

Dr. Stough is a staff member at St. Joseph's



D. BLUFORD STOUGH, III, M.D.

Hospital, Division of Dermatology, in Hot Springs and he is a member of the teaching and lecturing staff at the University of Arkansas Medical Center Division of Dermatology in Little Rock. At the symposium, Dr. Stough instructed a course entitled "Hair Transplant," and, on Thursday, June 12, he presented a paper entitled "Up-Dating Hair Transplantation."

The Second International Symposium was sponsored by the American Academy of Facial Plastic and Reconstructive Surgery, Inc., an international medical society of more than 1000 otolaryngologists and other regional specialists who practice plastic surgery of the head and neck. The American Academy is dedicated to stimulation of study, research and scientific advancement in the field of plastic and reconstructive surgery and all related basic sciences.

The First International Symposium on Plastic and Reconstructive Surgery of the Head and Neck was held in New York City in 1970.





PERSONAL AND NEWS ITEMS

Dr. Mitchell Named President

Dr. George K. Mitchell of Little Rock, formerly Medical Director of Arkansas Blue Cross-Blue Shield, has been named president and chief executive officer of the organization. Dr. Mitchell has been serving as Vice President for Medicare and Medical Services since 1973.

Fourth Generation Doctor Moulton Graduates

When Everett C. Moulton, III, M.D., graduated from the University of Arkansas School of Medicine in June 1975, he represented the fourth generation of Moultons in a direct line to receive his M.D. degree. His great grandfather, Herbert Moulton, graduated in 1884; his grandfather, Everett C. Moulton, graduated in 1914; and his father, Everett C. Moulton, Jr., graduated in 1941.

Dr. Sisco is Speaker

Dr. Friedman Sisco of Springdale was guest speaker at a meeting of the Washington County Men's Club. He presented his analysis of the current controversy on the escalating cost of medical malpractice insurance.

Dr. McMinimy Named Director

Dr. Donald McMinimy of Fort Smith has been elected to the Board of Directors of the Standard Federal Savings and Loan Association of Fort Smith.

Dr. Joseph Relocates

Dr. Eugene A. Joseph, who formerly practiced in DeQueen, has assumed the practice of Dr. B. R. Lowery and Dr. Arlis W. Loe of Searcy. Dr. Lowery will take a residency in Ophthalmology at the University of South Florida in Tampa. Dr. Loe will take a residency in Dermatology at the University of Texas Medical Branch at Galveston.

Dr. Lowe Joins Medical School

Dr. Betty A. Lowe of Texarkana has joined the University of Arkansas College of Medicine as a professor and head of the College's pediatric teaching unit at Arkansas Children's Hospital in Little Rock.

Dr. Pappas on Continuing Education Program

Dr. James J. Pappas of Little Rock presented a paper entitled "Round Window Ultrasonic

Irradiation in Treatment of Meniere's Disease" at the Baylor College of Medicine, Houston, Continuing Education in Otolaryngology meeting.

Dr. White Locates

Dr. Phillip White, a native of Nashville, Arkansas, has located his medical practice in Murfreesboro, associated with Dr. Hiram T. Ward.

Dr. Pennington is Chief of Staff

The Board of Directors of the Clarksville Hospital has approved Dr. Don Pennington as chief of staff, and Dr. Boyce West as secretary of staff.

Governor Pryor Appoints Malpractice Commission

Governor David Pryor recently appointed the three members of the Professional Malpractice Insurance Commission as directed by Act 638. The members include: Granger Williams of Little Rock, insurance executive; Charles Cunningham of Benton, director of a community action program; and Lawrence Lewis of Fayetteville, retired employee of the Federal Department of Labor.

Dr. Kirkley Addresses Rotary Club

Dr. John Kirkley of Jonesboro, president of the Craighead-Poinsett County Medical Society, recently spoke to the Jonesboro Rotary Club on the subject of standards and ethics in the medical profession.

Dr. Balch Named to Board

Dr. James Balch of DeQueen was recently elected to the Board of Directors of the DeQueen Chamber of Commerce.

El Dorado Pathology Lab Accredited

The Associated Pathology Laboratory in El Dorado, under the direction of Dr. Kenneth R. Duzan, was awarded a certificate of accreditation recently by the College of American Pathologists. The certification is recognized as one of the most outstanding peer evaluation systems in the world, reflecting the accuracy and precision of the laboratory's services. Dr. Wayne G. Elliott is associated with Dr. Duzan.

Dr. Harrison Honored by Award

Dr. R. Harvel Harrison, Chief of Psychiatry

at the North Little Rock Veterans Administration Hospital, has been presented the V. A. Department of Medicine and Surgery Honor Award for his participation in a training program for police officers.

Dr. Whittington Elected by A.C.E.P.

Dr. J. J. Whittington, III, of Jonesboro has been elected Vice President of the Arkansas Chapter of the American College of Emergency Physicians.



NEW MEMBERS

Dr. Merle D. Fox

The White County Medical Society has added the name of Dr. Merle D. Fox to its membership roll. He is a native of Howard, South Dakota.

Dr. Fox's pre-medical education was received at South Dakota State College of Arts and Sciences in Brookings. He received his M.D. degree in 1954 from Northwestern University Medical School. His internship was taken at Evanston Hospital, Evanston, Illinois, and his residency in Urology was completed at Gorgas Hospital, Canal Zone, in 1970.

Dr. Fox practiced for fifteen years in Bartlesville, Oklahoma, and is a member of the Southwest Section of the American Urological Society. He is now practicing Urology at 3205 East Race Avenue in Searcy.

Dr. Benjamin Harold Cheek

The Jefferson County Medical Society has accepted Dr. Benjamin H. Cheek for membership. He is a native of Florence, South Carolina.

Dr. Cheek received his B.S. degree in 1946 from the College of Charleston, Charleston, South Carolina. He was graduated from the Medical University of South Carolina College of Medicine in 1950 and completed his internship at McLeod University, Florence, South

Carolina. He served for two years in the United States Army and since 1955 had been in practice at the Pine Bluff Arsenal.

Dr. Cheek is now in General Practice at the Jefferson Comprehensive Care Center, 1515 West 42nd Avenue, in Pine Bluff.

Dr. Rustam Ali Malik

Dr. Rustam Ali Malik has been accepted for membership in the Jefferson County Medical Society. He is a native of Lahore, Pakistan.

Dr. Malik's pre-medical education was received in Pakistan and he was graduated from the King Edward Medical College, Lahore, West Pakistan, in 1968. He completed a General Surgery residency at McKeesport Hospital, McKeesport, Pennsylvania, in 1972, and in 1974, he completed a residency in Anesthesiology at West Pennsylvania Hospital in Pittsburgh. He is a member of the American Society of Anesthesiologists.

Dr. Malik is now practicing Anesthesiology at 1410 West 42nd in Pine Bluff with Dr. Mary Ellen Jenkins.

Dr. Thomas Richard Hoberock

The Boone County Medical Society has accepted Dr. Thomas R. Hoberock for membership. He is a native of Wichita, Kansas.

Dr. Hoberock attended the University of Missouri and was graduated from the University of Missouri School of Medicine, Columbia, Missouri, in 1966. His internship was completed at Tripler United States Army Hospital, Honolulu, Hawaii. He received his residency training in General Surgery at Tulane University Hospitals, William Beaumont United States Army Hospital, El Paso, Texas, and the University of Louisville Hospital, Louisville, Kentucky.

Dr. Hoberock is practicing General Surgery at 651 North Spring Street in Harrison.

NEW MEMBERS

Dr. James Lee Miller

Dr. James Lee Miller has been added to the membership roll of the Crittenden County Medical Society. He is a native of Brinkley, Arkansas.

He received his B.S. degree in 1965 from the University of Arkansas and his M.S. degree in 1969 from the University of Minnesota. He was graduated in 1973 from the University of Arkansas School of Medicine. Dr. Miller completed his internship at the University of Arkansas Medical Center in Little Rock.

He is in General Practice at the Hamilton Clinic, 300 Rhodes Street, in West Memphis. He is associated with Dr. Ralph B. Hamilton and Dr. Bedford W. Smith.

Dr. Sandra Lee Sindel Young

The Pope County Medical Society has accepted Dr. Sandra Lee Young for membership. She is a native of Kansas City, Missouri.

Dr. Young received her B.A. degree in 1968 from Hendrix College in Conway, Arkansas. She was graduated from the University of Arkansas School of Medicine in 1972, and completed her rotating internship at St. Vincent Infirmary in Little Rock. She is a member of the American Association of Family Physicians.

Dr. Young is in Family Practice at the Ashcraft Medical Clinic, 2524 West Main, Russellville, associated with Dr. Ted E. Ashcraft.

Dr. Warner B. Dunlap

Dr. Warner B. Dunlap has been accepted for membership in the Jackson County Medical Society. He is a native of Nashville, Tennessee.

Dr. Dunlap attended the University of Tennessee and was graduated from the University of Tennessee College of Medicine, Memphis, in 1968. He completed both his internship and residency at the City of Memphis Hospitals. After two years in the United States Navy, 1971 until 1973, Dr. Dunlap located in Newport. He is a member of the Arkansas Academy of Pediatrics.

Dr. Dunlap is practicing Pediatrics at the Harris Hospital and Clinic, 1205 McLain Street, Newport.

Dr. Michael Dortch Coleman

The Sebastian County Medical Society has added the name of Dr. Michael Coleman to its

membership roll. He is a native of Jackson, Tennessee.

Dr. Coleman received his B.A. degree in 1966 from the University of Arkansas and was graduated from Duke University School of Medicine, Durham, North Carolina, in 1970. He completed both his internship and residency at the Duke Medical Center in Durham. He is Board Certified in Internal Medicine.

Dr. Coleman is practicing Internal Medicine and Nephrology at Holt-Krock Clinic, 1500 Dodson Avenue, Fort Smith.

Dr. Charles Morris McClain, Jr.

The White County Medical Society has accepted Dr. Charles M. McClain, Jr., a native of Little Rock, Arkansas, for membership.

Dr. McClain received his B.S. degree in 1963 from Little Rock University. He was graduated from the University of Arkansas School of Medicine in 1967, and interned at St. John's Hospital in Tulsa, Oklahoma. He completed a General Practice residency at Community Hospital of Sonoma County, Santa Rosa, California, in 1970. In 1974 he completed his Radiology residency at the University of Arkansas Medical Center. He is a member of the American College of Radiology and the Radiology Society of North America.

Dr. McClain is practicing Radiology with the Arkansas Radiology Group, P.A., 1400 West Pleasure, Searcy, associated with Dr. John Bell.

Dr. Beuford Durmon

The Hot Spring County Medical Society has accepted Dr. Beuford Durmon for membership. He is a native of Mobile, Alabama.

Dr. Durmon attended the University of Arkansas at Monticello and was graduated from the University of Arkansas School of Medicine in 1969. He also received his B.S. in Medicine in 1969. His internship was completed at the University of Arkansas Medical Center and he completed a Family Practice residency at the University of Oklahoma Hospitals in Oklahoma City.

Dr. Durmon is in Family Practice at the Malvern Medical Clinic, 1004 Dyer, Malvern, associated with Dr. Robert H. White and Dr. James A. Lindsey.

Dr. Robert Alton (Tony) Council, Jr.

Dr. Tony Council has been accepted for membership in the Saline County Medical Society. He is a native of Fort Smith, Arkansas.

Dr. Council is a 1962 graduate of Washington and Lee University, Lexington, Virginia, where he received a B.S. degree. He was graduated from the University of Arkansas School of Medicine in 1971. He completed a straight internship in Obstetrics and Gynecology and a residency in Obstetrics and Gynecology at the University of Arkansas Medical Center in Little Rock.

Dr. Council is now practicing Obstetrics and Gynecology at 910 North East Street in Benton, associated with Dr. Frank G. Thibault, Jr.

Dr. Robert Edward Price

The Jackson County Medical Society has accepted Dr. Robert E. Price, a native of Muncie, Indiana, for membership.

Dr. Price received his B.S. degree in 1950 from the University of Ball State, Muncie, Indiana. He was graduated from the University of Cincinnati College of Medicine, Cincinnati, Ohio, in 1954. Dr. Price completed both his internship and residency at St. Mary's Hospital in Cincinnati. He practiced for eighteen years in Cincinnati, and he is a member of the American Academy of Family Physicians.

Dr. Price is in Family Practice at the Harris Hospital and Clinic, 1205 McLain Street, Newport.

Dr. E. Jane Mauch

The Pope County Medical Society has accepted for membership Dr. Jane Mauch, a native of Sapulpa, Oklahoma.

Dr. Mauch attended the University of Tulsa and the University of Oklahoma at Norman. She was graduated from the University of Iowa College of Medicine, Iowa City, in 1970 and completed her internship at Geisinger Medical Center. Dr. Mauch completed her Family Practice residency in 1973 at the Hunterdon Medical Center, Flemington, New Jersey.

She is in Family Practice at the Millard-Henry Clinic, 3005 West Main Place, Russellville.

Dr. Linda Odum Bell

Dr. Linda Bell has been accepted for membership in the Pope County Medical Society. She is a native of Beebe, Arkansas.

Dr. Bell received her B.M. degree in 1966 from the University of Arkansas. She was graduated from the University of Arkansas School of Medicine in 1966. Dr. Bell interned at the Baptist Medical Center in Little Rock and she completed her Psychiatry residency at the University of Arkansas Medical Center in Little Rock in 1970.

From 1970 until 1972, Dr. Bell was Clinical Instructor at the University of Arkansas Medical Center and since 1972, she has served as Assistant Clinical Professor. She was Psychiatry Chief of Staff at St. Vincent Infirmary in Little Rock from 1972 until 1974. She is a member of the Arkansas Psychiatry Society and the American Psychiatry Association.

Dr. Bell now practices Psychiatry in the Skyline Medical Building in Russellville.

Dr. James A. Lindsey

The Hot Spring County Medical Society has added the name of Dr. James Lindsey to its membership roll. He is a native of Bearden, Arkansas.

Dr. Lindsey received his B.S. degree in 1965 from Southern State College, Magnolia, Arkansas. He was graduated from the University of Arkansas School of Medicine in 1969. His internship was completed at the Confederate Memorial Hospital in Shreveport, Louisiana, and his Family Practice residency was completed in 1974 at the University of Oklahoma Hospitals, Oklahoma City. He is a member of the American Academy of Family Physicians.

Dr. Lindsey is in Family Practice at the Malvern Medical Clinic, 1004 Dyer Street, Malvern, associated with Dr. Robert H. White and Dr. Beuford Durmon.

Dr. Jon R. Ewing

The Franklin County Medical Society has accepted for membership Dr. Jon R. Ewing, a native of Kennett, Missouri.

Dr. Ewing is a 1968 graduate of Ouachita Baptist University in Arkadelphia, Arkansas. He was graduated from the University of Arkansas School of Medicine in 1973. He completed his internship at Baptist Memorial Hospital in Little Rock.

Dr. Ewing is in General Practice at the Ozark Medical Clinic, 604 West Commercial in Ozark, associated with Dr. Rebecca A. Ewing.

Dr. James W. Basinger

The Craighead-Poinsett County Medical Society has added the name of Dr. James W. Basinger to its membership roll. He is a native of Rudy, Arkansas.

He was graduated from Arkansas State University in 1954 with a B.S. degree. Dr. Basinger was graduated from the University of Arkansas School of Medicine in 1958. Following his internship at Tampa General Hospital, Tampa, Florida, Dr. Basinger completed a General Surgery residency in 1960 at the University of South Florida Medical School, Tampa. Following general practice in Dade City, Florida, he returned to the University of South Florida Medical School where he completed a residency in Obstetrics and Gynecology in 1972.

He is a Junior Fellow, American College of Obstetrics and Gynecology.

Dr. Basinger is practicing Obstetrics and Gynecology at the Jonesboro Medical Center, 505 East Matthews, Jonesboro, associated with Drs. Donald Berry, John Kirkley, and John St. Clair, Jr.

Dr. George W. Dickinson

Dr. George W. Dickinson is a new member of the Sevier County Medical Society. He is a native of Horatio, Arkansas.

Dr. Dickinson is a graduate of the University of Arkansas and he was graduated from the University of Arkansas School of Medicine in 1929. He completed his internship at the United States Naval Hospital, Mare Island, California. Dr. Dickinson retired in 1953 following twenty-five years of service in the United States Navy, at the rank of Rear Admiral. He was in solo practice for twenty-one years in Palmyra, New Jersey.

Dr. Dickinson is now in General Practice with the Dickinson Clinic, Fourth and Heynecker, DeQueen, associated with Drs. Richard and Rodger Dickinson.

Dr. William Combs Culp

The Sabastian County Medical Society has accepted Dr. William C. Culp for membership. He is a native of McAlester, Oklahoma.

Dr. Culp is a 1963 graduate of the University of Oklahoma. He was graduated from the University of Oklahoma School of Medicine,

Oklahoma City, in 1967. His internship was completed at the University of Oklahoma Hospitals in Oklahoma City. Dr. Culp completed a Radiology residency at the University of Texas Medical Branch at Galveston. He is Board Certified by the American Board of Radiology. Memberships include the American College of Radiology and Southern Medical Association.

He is now practicing Radiology with Radiologists, P.A., 318 North Greenwood in Fort Smith, associated with Drs. Paul L. Rogers, Thomas Parker, and William Huskison.

Dr. Arnett Draughan Smith, Jr.

The Miller County Medical Society has accepted for membership Dr. Arnett D. Smith, Jr., a native of Farmerville, Louisiana.

Dr. Smith received his B.S. degree from Louisiana Tech University, Ruston, Louisiana. He was graduated from Tulane University School of Medicine, New Orleans, Louisiana, in 1965, and his internship was taken at Charity Hospital in New Orleans. Dr. Smith was a resident in General and Thoracic Surgery from 1966 through 1972 at Tulane University Charity Hospital in New Orleans.

He is Board Certified by the American Board of Surgery and the American Board of Thoracic Surgery. He was an instructor in surgery at Louisiana State University School of Medicine, Shreveport, and holds memberships in the Southwestern Surgical Society and the American College of Surgeons.

Dr. Smith is practicing General and Thoracic Surgery at 4800 Texas Boulevard, Texarkana, associated with Dr. Robert S. McGinnis, Sr.

Dr. Robert L. Prosser, III

The Desha County Medical Society has accepted for membership Dr. Robert L. Prosser, III. He is a native of St. Louis, Missouri.

Dr. Prosser attended Arkansas A and M College, Pine Bluff, and was graduated from the University of Arkansas School of Medicine in 1970. He completed his internship and residency in General Practice at John Peter Smith Hospital, Fort Worth, Texas.

Dr. Prosser is in General Practice at the McGehee Family Clinic, P.A., 600 Holly Street in McGehee.

Dr. Charles Paul Sisco

Dr. Charles P. Sisco has been accepted for membership in the Washington County Medical Society. He is a native of San Antonio, Texas.

He graduated from the University of Arkansas in 1965 with a B.S. degree. His M.D. degree was received from the University of Arkansas School of Medicine in 1967. His internship was completed at St. John's Hospital, Tulsa, Oklahoma. Dr. Sisco completed his residency program at the St. Louis University Hospitals, St. Louis, Missouri. Dr. Sisco is Board Certified in Internal Medicine by the American Board of Internal Medicine and he is also Board Certified in Allergy by the American Board of Allergy. He is a member of the American College of Physicians and the American Academy of Allergy.

Dr. Sisco is practicing Internal Medicine and Allergy at the Sisco Clinic, 100 South Shilo, Springdale, associated with Dr. Friedman Sisco.

Dr. Jorge H. Johnson

The Washington County Medical Society has added the name of Dr. Jorge H. Johnson to its membership roll. He is a native of Chicago, Illinois.

Dr. Johnson received a B.A. degree in 1957 from the University of Colorado, Boulder. He was graduated from the University of Colorado School of Medicine, Denver, in 1963. His internship was taken at Indiana University Medical Center, Indianapolis. From 1964 until 1968, Dr. Johnson was a resident in Neurosurgery at the University of Kansas Medical Center. He served in the United States Army Medical Corps from 1968 until 1974. He is a member of the Congress of Neurological Surgeons.

Dr. Johnson is practicing Neurology at the Orthopaedic-Neurological Clinic, Ltd., 1673 North College, Fayetteville. He is associated with Drs. Tom Coker, Coy Kaylor, Carl Kendrick, and James Moore.

Dr. James F. Moore

The Washington County Medical Society has accepted Dr. James F. Moore for membership. He is a native of Hodge, Louisiana.

Dr. Moore is a 1965 graduate of the University of Arkansas and was graduated from the University of Arkansas School of Medicine in 1969. He interned at the University of Florida Hos-

pital, Gainesville. He was a resident in Orthopedic Surgery from 1970 until 1974 at the University of Arkansas Medical Center in Little Rock.

Dr. Moore is practicing Orthopaedic Surgery at the Orthopaedic-Neurological Clinic, Ltd., 1673 North College, Fayetteville. He is associated with Drs. Tom Coker, Coy Kaylor, Carl Kendrick, and Jorge Johnson.

Dr. Marvin J. Roesler

Dr. Marvin J. Roesler is a new member of the Union County Medical Society. He is a native of Albert Lea, Minnesota.

Dr. Roesler received his B.S. degree in 1951 from the University of Wisconsin, Madison. He was graduated from the University of Wisconsin Medical School, Madison, in 1954. His internship was taken at the University of Oregon Medical School Hospitals in Portland. He was a resident in Radiology at Columbia Milwaukee Lutheran, and Milwaukee Children's Hospitals, affiliated with the University of Wisconsin Medical School.

Dr. Roesler is Board Certified by the American Board of Radiology. He is a member of the American College of Radiology and the Radiological Society of North America.

Dr. Roesler is now practicing Radiology at 700 West Grove Street in El Dorado.

Dr. James H. Davis

The Garland County Medical Society has accepted Dr. James H. Davis, a native of Little Rock, for membership.

Dr. Davis attended Hendrix College in Conway, Arkansas, and received a B.S. degree from the University of Arkansas. He was graduated from the University of Arkansas School of Medicine in 1962, and he completed his internship at Baptist Medical Center in Little Rock. He practiced in Salem, Arkansas, for seven years.

Dr. Davis is now in General Practice in Mount Ida.

Dr. J. Richard Gardial

Dr. J. Richard Gardial is a new member of the Garland County Medical Society. He is a native of Little Rock, Arkansas.

Dr. Gardial received his B.S. degree in 1969 from the University of Arkansas at Monticello.

He was graduated from the University of Arkansas School of Medicine in 1973. His internship was completed at Baptist Medical Center in Little Rock.

Dr. Gardial is in General Practice at the Doctors Clinic of Hot Springs, 125 Greenwood, associated with Dr. George P. Queen.

Dr. Michael R. Platt

The Washington County Medical Society has accepted Dr. Michael R. Platt, a native of Fort Smith, Arkansas, as a new member.

Dr. Platt received his B.S. degree in 1965 from the University of Arkansas at Fayetteville. He was graduated from the University of Arkansas School of Medicine in 1967. He completed his internship at Hillcrest Medical Center, Tulsa, Oklahoma, and his residency in Radiology was taken at the University of Oklahoma Health Sciences Center in Oklahoma City. He is Board Certified by the American Board of Radiology and is a member of the American College of Radiology.

Dr. Platt is practicing Radiology at 1409 Camino Real, Springdale.

Dr. Thomas Peter Harper

Dr. Thomas P. Harper is a new member of the Craighead-Poinsett County Medical Society. He is a native of Maynard, Arkansas.

Dr. Harper is a 1914 graduate of the University of Arkansas School of Medicine. He was in

general practice for thirty-two years in Peach Orchard, Arkansas, and for twenty-nine years in Monette, Arkansas. He is Board Certified by the American Board of Family Practice.

Dr. Harper is in General Practice at the Harper Clinic in Monette.

Dr. George William Smith

The Union County Medical Society has added the name of Dr. George W. Smith to its membership roll. He is a native of El Dorado, Arkansas.

He graduated from Louisiana Tech University, Ruston, in 1968 with a B.S. degree. Dr. Smith was graduated from the Tulane University School of Medicine, New Orleans, Louisiana, in 1972. His internship was taken at the City of Memphis Hospitals, Memphis, Tennessee.

Dr. Smith is now in Family Practice at 427 West Oak in El Dorado.

The following are new intern and resident members of the Pulaski County Medical Society:

University of Arkansas for Medical Sciences:

Ronald D. Hardin—Intern
 Hugh F. Burnett, Resident—Surgery
 Christopher E. Wiggins, Resident—Orthopedics
 James A. McMillan, Resident—Internal Medicine
 Gregory S. Krulin, Resident—Psychiatry
 Donald R. Guinn, Resident—Medicine
 Frank Vieras, Resident—Nuclear Medicine



September, 1975

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Vol. 72 No. 4

FORT SMITH, ARKANSAS

ARKANSAS MEDICAL SOCIETY
CENTENNIAL YEAR

BECOTIN®
Vitamin B Complex

BECOTIN® with VITAMIN C
Vitamin B Complex with Vitamin C

BECOTIN®-T
Vitamin B Complex with Vitamin C, Therapeutic

MI-CEBRIN®
Vitamins-Minerals

MI-CEBRIN T®
Vitamin-Minerals Therapeutic

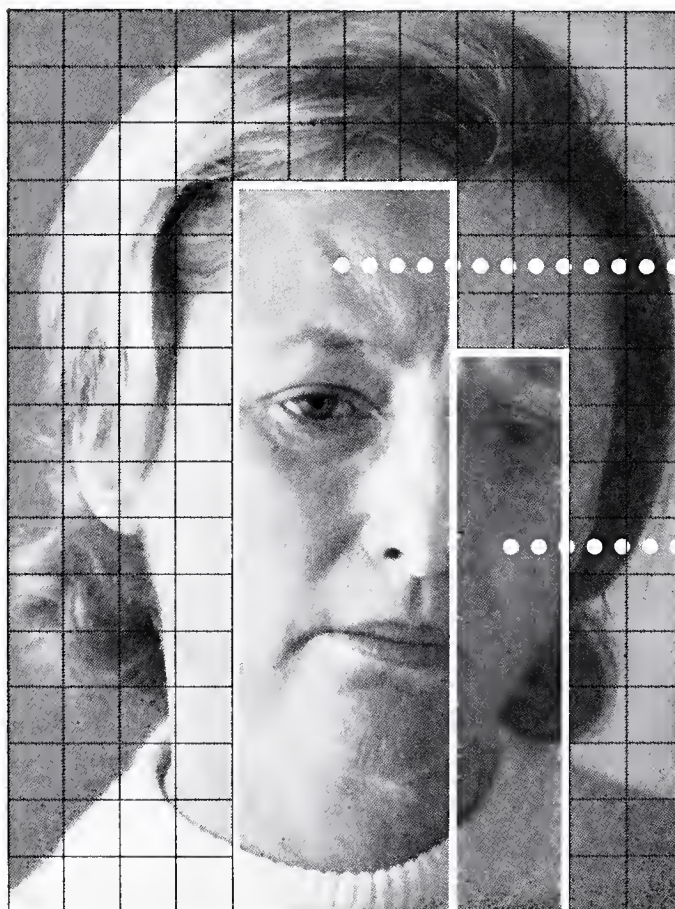
AND A WIDE VARIETY OF OTHER PHARMACEUTICALS



DISTA PRODUCTS COMPANY
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

LIBRARY
U.C. SAN FRANCISCO
SEP 26 1975

Both often



Predominant
psychoneurotic
anxiety

Associated
depressive
symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent

in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium[®] (diazepam) 2-mg, 5-mg, 10-mg tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Owned by
THE ARKANSAS MEDICAL SOCIETY
And Published Under Direction of the Council

ALFRED KAHN, JR., M.D., Editor
1300 West Sixth Street Little Rock, Arkansas

MR. PAUL C. SCHAEFER, Business Manager
214 North 12th Street Fort Smith, Arkansas

LITTLE ROCK BUSINESS OFFICE
114 E. Second St. Little Rock, Arkansas

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY

T. E. TOWNSEND, President	Pine Bluff
A. S. KOENIG, JR., President-Elect	Fort Smith
ASA A. CROW, First Vice President	Paragould
MAHLON O. MARIS, Second Vice President	Harrison
DONALD L. DUNCAN, Third Vice President	Texarkana
ELVIN SHUFFIELD, Secretary	Little Rock
KENNETH R. DUZAN, Treasurer	El Dorado
AMAIL CHUDY, Speaker,	
House of Delegates	North Little Rock
CHARLES F. WILKINS, JR., Vice Speaker,	
House of Delegates	Russellville
ALFRED KAHN, JR., Journal Editor	Little Rock
C. C. LONG, Delegate to AMA	Fort Smith
PURCELL SMITH, Delegate to AMA	Little Rock
JOE VERSER, Alternate Delegate to AMA	Harrisburg
T. E. TOWNSEND, Alternate Delegate to AMA	Pine Bluff
MR. PAUL C. SCHAEFER, Executive Vice President,	
P. O. Box 1208	Fort Smith

COUNCILORS

First District	JOHN B. KIRKLEY	Jonesboro
	*ELDON FAIRLEY	Osceola
Second District	JOHN E. BELL	Searcy
	*PAUL GRAY	Batesville
Third District	*L. J. P. BELL	Helena
	FRED C. INMAN, JR.	Carlisle
Fourth District	JOHN P. BURGE	Lake Village
	*RAYMOND IRWIN	Pine Bluff
Fifth District	*J. B. JAMESON, JR.	Camden
	JOHN H. MOORE	El Dorado
Sixth District	*C. LYNN HARRIS	Hope
	A. E. ANDREWS	Texarkana
Seventh District	*ROBERT F. McCRARY	Hot Springs
	CURTIS CLARK	Sheridan
Eighth District	WILLIAM S. ORR, JR.	Little Rock
	*W. PAYTON KOLB	Little Rock
Ninth District	*HENRY V. KIRBY	Harrison
	MORRIS M. HENRY	Fayetteville
Tenth District	KEMAL KUTAIT	Fort Smith
	*C. C. LONG	Fort Smith
*Senior Councilor		

The Advertising policy of this JOURNAL is governed by the PRINCIPLES OF ADVERTISING of the State Medical Journal Advertising Bureau, Inc., by the Advertising Committee of the Bureau and by the Council of the Arkansas Medical Society.

EXCLUSIVE PUBLICATION—Articles are accepted for publication on the condition that they are contributed solely to this JOURNAL.

COPYRIGHT 1975—By the JOURNAL of the Arkansas Medical Society.

NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

SCIENTIFIC ARTICLES

Hysteria—Clarification of Definitions and Dynamics	159
<i>Frank B. Minirth, M.D.</i>	
Prevention of Postpartum Breast Engorgement: Double-Blind Comparison of Chlorotriani- sene 72 mg and Placebo	163
<i>W. P. Phillips, M.D.</i>	
Comparison of Cervical Pap Smears with Subsequent Diag- nosis of Cervical Carcinoma	168
<i>Ruth C. Steinkamp, M.D., et al.</i>	

FEATURES

Office Orthopaedics: Subluxating and Luxating Patellae	173
<i>H. Austin Grimes, M.D.</i>	
EKG of the Month:	177
<i>Robert T. Bulloch, M.D.</i>	
Arkansas Public Health at a Glance, Preventing Botulism in Home- Canned Foods	178
<i>Miss Carol Hopkins and Mrs. Fletta I. Fore</i>	
Editorial: Cataracts as a Model of the Aging Process	179
<i>Alfred Kahn, Jr., M.D.</i>	
Medicine in the News	181
Obituary	186
Things to Come	187
Personal and News Items	189
Woman's Auxiliary	189
New Members	190

Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72901. Published monthly under direction of the Council, Arkansas Medical Society, Volume 72, No. 4. Subscription \$2.00 a year. Single copies 50 cents. Entered as second class matter, May 1, 1955, in the post office at Little Rock, Arkansas, under the Act of Congress of March, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 1, 1918. Second-class postage paid at Little Rock, Arkansas.

Hysteria — Clarification of Definitions and Dynamics

Frank B. Minirth, M.D.*

The term hysteria is used in many ways. It not only has various meanings within the medical profession, but it also has various meanings among the general population. The definition varies from meaning someone who is very dramatic and excitable to meaning someone with a case of amnesia. Depending on how it is used, it may refer to an explosive episode, personality disorder, or a specific psychopathology resulting in a neurosis. Using the term in a broad medical sense, it does encompass a significant proportion of the mental problems that are seen by medical doctors. During a six-month rotation on the psychiatric ward, this writer found that 25% of his patients had some form of hysteria.

The use of the term hysteria dates back to the Greeks who used the term to refer to a problem seen in women. It was felt that this problem was due to a migrating uterus. During the middle ages many hysterics were no doubt diagnosed as being demon possessed. In relatively more recent times men such as Charcot, Freud and Janet have been responsible for the upsurge of interest in hysteria.

When the term hysteria is used in the medical sense, it refers essentially to one of three problems. These are:

1. Hysterical personality.
2. Hysterical neurosis, conversion type.
3. Hysterical neurosis, dissociative type.

Hysterical Personality

To understand what hysterical personality is, one must first understand personality disorder. A personality disorder is:

1. Characterized by being life-long.
2. Characterized by a particular life-style or pattern.
3. Characterized by the excessive use of certain predictable defense mechanisms in order to handle stress.

*Chief Resident, Department of Psychiatry, University of Arkansas College of Medicine, 4301 West Markham, Little Rock, Arkansas 72205.

The diagnostic and statistical manual of psychiatry uses ten terms to describe a hysterical personality. These are:

1. Excitability
2. Emotional instability
3. Over-reactivity
4. Self-dramatization
5. Attention seeking
6. Seductive
7. Immature
8. Self-centered
9. Vain
10. Dependent

Thus, an individual with a hysterical personality, at an early age develops a life style characterized by being self-centered, theatrical, manipulative, and seductive. This life-style has persisted with the patient throughout life.

Case # 1:

A typical example of hysterical personality is that of a young, attractive, white female who is brought to the hospital because of a suicide attempt. Manipulation seemed to be a factor in the suicide attempt. The doctor found that the patient was dramatic, theatrical and seductive.

Dynamics:

As in many cases in medicine, the opinion as to the cause of the problem varies depending upon the author. The view of the dynamics of hysterical personality varies from those who propose that the cause of hysterical personality is a product of our culture and age to those who favor dynamic concepts put forth by Freud.

The psychoanalytical explanation for some of the symptoms of hysterical personality would be similar to the following:

1. Seductiveness — the patient is seductive because as a young child she learned that she could get attention from her father by behaving this way. She learned this pattern of behavior and

later carried this pattern on to her relationship with other men.

2. Frigidity — as a young child the little girl had incestuous wishes toward her father. The little girl felt much guilt over this and repressed it. These feelings are still with her and she has carried these over in her feelings toward other men. Therefore, as an adult, her forbidden incestuous feelings would make her frigid in sexual intercourse.

3. Ambivalence for men — as a young child the little girl idealized her father but at some time felt rejection from him or resented sexual advances toward her by him. In either case, she developed an ambivalence for men. The hysterical personality often looks for an idealized male image but when she finds him she feels hatred for him at the same time.

While there is validity to some of Freud's concepts, other concepts as the ones above, are questionable. It has been suggested that hysterical personality should be described in terms of behavior rather than dynamics as above. The writer finds this thought useful.

Differentiation:

Finally, before making a diagnosis of hysterical personality, one should consider the following factors which could alter the diagnosis:

1. Cultural factors — when making any diagnosis of abnormality, the culture from which a person comes is of major importance.

2. Acute stress — under an acutely stressful situation many people may appear to have a hysterical personality.

Hysterical Neurosis — Conversion Type

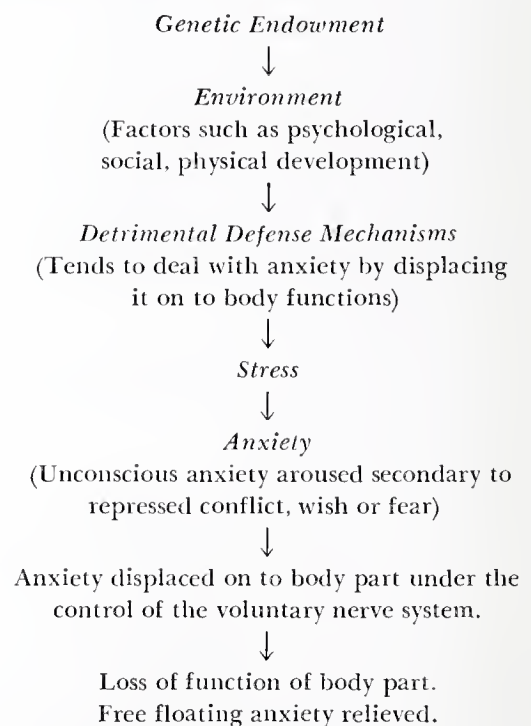
Before describing hysterical neurosis, once again, a definition of neurosis in general would be helpful. A neurosis is a mental disorder which significantly impairs the patient's ability to function; however, the patient remains in good contact with reality. The neurosis is caused by unconscious anxiety and how that anxiety is handled will often determine the type of neurosis that is diagnosed. In hysterical neurosis, conversion type, the patient handles his anxiety by displacing it to a body part. The body then suffers a psychogenic loss of function. This loss of function may be blindness, deafness, paralysis, paresis, hemiplegia, aphonia, convulsions, etc.

Case # 2:

An example of hysterical neurosis, conversion type, was demonstrated by a young lady who was admitted to the psychiatry ward because of intense pain in her left leg. The pain was not related to any anatomical nerve distribution and no significant organic pathology could be found on physical examination or by x-ray. The young lady gave a life-long history of various body aches, pains and symptoms.

Dynamics:

In general, the dynamics of any emotional problem could be explained as follows: A person is born with certain genetic endowments. Much of his development depends on his environment. His environment in this case meaning psychological, social and physical development. Because of problems in one of these areas (genetic, environment) detrimental defense mechanisms may develop. When in later life the patient is subject to acute stress he may become psychotic or neurotic. In the case of hysterical neurosis, conversion type, this dynamic formulation could be represented by the following diagram:



In considering the dynamics of hysterical neurosis, conversion type, three factors should be considered:

1. Symptoms may be symbolic of repressed unconscious conflicts, wishes or fears. These symptoms also represent a symbolic expression of these conflicts, wishes or fears. For example,

a soldier in battle may develop paralysis of his right arm. Thus, he can no longer fight and would be taken to the hospital; his fear of being killed was relieved. Also, the soldier could have had the fear of killing others and by not being able to use his right hand he thus could not do this, and he would be relieved of this distressing responsibility.

2. The terms primary gain and secondary gain are often used when discussing hysterical neurosis, conversion type. The primary gain in the case listed above would be that of reduced anxiety. The secondary gain the soldier would gain would be the attention he would receive at the hospital and also the release of his responsibility in his job.

3. Labelle indifference—it has often been noted that patients with hysterical neurosis, conversion type, have an expression which reflects a lack of concern for their apparent physical illness. This relates to the reduction of anxiety that the patient has experienced. Psychoanalytic interpretations of the dynamics of this phenomenon have also been put forth, but they will not be dealt with here.

Differentiation:

Hysterical neurosis, conversion type, should be differentiated from the following problems:

1. A problem with an organic or neurological cause.
2. Malingering.
3. Psychophysiologic disorder. In psychophysiologic disorder there is a problem with the automatic nervous system, whereas in hysterical neurosis conversion type, there is a problem with the voluntary nervous system. In psychophysiologic disorder there is actual organ pathology secondary to psychological cause whereas in hysterical neurosis, conversion type, there is no organ pathology. In psychophysiologic disorder symbolism is not important whereas in hysterical neurosis, conversion type, symbolism is important.

Hysterical Neurosis — Dissociative Type

Hysterical neurosis, dissociative type, is a neurotic condition in which there is an altered state of consciousness. This altered state of consciousness or identity is characterized by such symptoms as: amnesia, multiple personality and fugue. Janet wrote about this condition in the early 1900's and noted the dissociation or block-

ing-off of certain portions of the ego from the rest of the usual and logical conscious state.

Case # 3:

A young female was admitted to the psychiatric ward because of episodes during which her personality would completely change. She would develop a personality type much different than her usual personality type. The patient was usually a moral and conscientious young lady, but during these states she would curse, smoke and act in a manner contrary to her usual personality. Because of various factors there was some question in the diagnosis of this case. But if this case did prove to, indeed, be a case of multiple personality, it would be similar to that of the three faces of Eve.

Dynamics:

As stated earlier, in hysterical neurosis there is a blocking-off by dissociation of parts of the ego from the rest of the ego, producing an altered state of consciousness. This dissociation takes place because of unconscious anxiety. It may be that the patient is facing a difficult situation in life and all of the possible solutions seem disastrous. Since there seems to be no possible solution, the ego deals with the problem of dissociation. Thus, the dissociation symbolizes an underlying conflict and an attempt to deal with anxiety.

Differentiation:

A doctor would need to differentiate hysterical neurosis, dissociative type, with the following conditions:

1. Malingering.
2. Schizophrenia — although there is little difficulty in differentiating this from schizophrenia, many people in the general population think of schizophrenia in terms of a multiple personality. This, of course, is not true. Multiple personality relates to a neurosis and schizophrenia relates to psychosis.

Summary

Hysteria is a confusing term and has had various meanings through the years. Medically speaking, hysteria refers to one of three conditions:

1. Hysterical personality.
 2. Hysterical neurosis, conversion type.
 3. Hysterical neurosis, dissociative type.
- These problems are different and may be dif-

ferentiated by the symptoms listed under each category above. Dynamics of each condition are also discussed above.

BIBLIOGRAPHY

- Busselman, Beulah: *Neurosis & Psychosis*. Illinois, c. c. Thomas, 1969.
- Chodoff, P.: The Diagnosis of Hysteria: An Overview. *The American J. Psychiat.* 131:1073-78, No. 10, Oct. 1974.
- Detre, T. P., Jarecki, H. G.: *Modern Psychiatric Treatment*. J. B. Lippincott Co. 217-60, 1971.
- Diagnostic and Statistical Manual of Mental Disorders, 2nd Ed. American Psychiatric Assoc., Washington, D. C., 1968.
- Fenichel, O.: *The Psychoanalytic Theory of Neurosis*. W. W. Norton & Co. Inc. New York, N. Y., 1972.
- Freedman, A. M., Kaplan, H. I., Sadock, B. J.: *Modern Synopsis of Psychiatry*. The Williams and Wilkins Co., Baltimore, 1972.
- Freud, S.: *The Complete Psychological Works of Sigmund Freud*. The Hogarth Press, London, England, 7:135-243, 1959.
- Janet, P.: *The Major Symptoms of Hysteria (1907)*. Hafner Publishing Co., New York, 1965.
- Lewis, W. C.: Hysteria, The Consultant's Dilemma. *Archives of General Psychiatry*, 30:145-51, No. 2, Feb. 1974.
- Luisada, P., et al: The Hysterical Personality in Men. *The Am. J. Psychiat.* 131:518-21, No. 5, May 1974.
- Merrill, T., Eaton, J., Peterson, M. H.: *Psychiatry*. Medical Examination Publishing Co. Inc., Flushing, N. Y. 159-61, 1969.
- Soloman, P., Patch, V. D.: *Handbook of Psychiatry*. Lange Medical Publications, Los Altos, California, 230-31, 1971.



Prevention of Postpartum Breast Engorgement: Double-Blind Comparison of Chlorotrianisene 72 mg. and Placebo

W. P. Phillips, M.D.*

The use of some form of medication for the purpose of preventing postpartum breast engorgement in the non-nursing mother has become an expected part of the practice of obstetrics in the United States. The multitude of preparations available testifies to the lack of uniform good results with any one preparation. Stein¹ reviewed the variability in preparations, dosage, regimens, and results reported in 19 separate studies. For the past several years, the obstetrical group with whom I am associated used an injectable estrogen-androgen preparation.** However, several instances of disturbing side effects, such as acne and voice changes, recurred with the use of this preparation.

We did not wish to sacrifice the convenience of administration enjoyed with the injectable product. We felt that any substitute should not, preferably, require the patient to be discharged without completion of her medication schedule.

The opportunity became available for the evaluation of a short-term oral treatment utilizing a high dose capsule containing a substance which had been used for a number of years.²⁻⁵ This promised to be free of androgen and its undesirable side effects. The medication was chlorotrianisene (TACE),† a synthetic, non-steroidal, orally effective substance with a prolonged estrogenic effect.⁶⁻⁹ We decided to test the effectiveness of a 72 mg. capsule formulation (TACE 72 mg.)† administering one capsule twice daily for 2 days. Since none of our patients are discharged prior to the third postpartum day, medication could be administered entirely by the hospital staff.

Methods and Materials

Two hundred private postpartum patients

who chose not to breast feed were randomly assigned on a double-blind basis to chlorotrianisene 72 mg. (TRACE 72 mg.) or a placebo. They received medication twice daily for 2 days for a total dose of 4 capsules. The first dose was given as soon as possible after delivery (mean of 3.27 hours from delivery to ingestion of first capsule: range of 0.25 hours to 12 hours). The second, third, and fourth doses were given at the standard 12-hourly medication time of the hospital.

The patients were advised to avoid mechanical stimulation to the breasts and advised against drinking excessive amount of fluids.

Severity of engorgement, lactation, and discomfort were each graded daily by scores from 0 to 2 while the patients remained in hospital (none = 0; mild to moderate = 1; severe = 2). Concurrent therapy such as breast binders, ice bags, and analgesics was also recorded.

Approximately 14 days after delivery the patients either completed a questionnaire or were contacted by telephone or in person to determine whether any problems had occurred regarding breast discomfort and leakage or amount and color of vaginal discharge.

In the questionnaire the patients were asked to rate their problems as follows:

Breast discomfort:

None = 0.

Uncomfortable but not sufficient to worry about = 1.

Uncomfortable enough that you had to take something to relieve the pain = 2.

Uncomfortable enough that you had to call doctor for advice = 3.

Leakage:

None = 0.

Some, but not enough to worry about = 1.

Enough to be quite troublesome = 2.

So much that you had to call doctor for advice = 3.

*408 South 16th Street, Fort Smith, Arkansas 72901.

**Supported in part by a grant from Merrell-National Laboratories, Division of Richardson-Merrell Inc., Cincinnati, Ohio.

†Testosterone enanthate (360 mg.) and estradiol valerate (16 mg.) injection (Deladumone OB), E. R. Squibb & Sons, New York, N. Y.

†Merrell-National Laboratories, Division of Richardson-Merrell Inc., Cincinnati, Ohio.

PREVENTION OF POSTPARTUM BREAST ENGORGEMENT: DOUBLE-BLIND
COMPARISON OF CHLOROTRIANISENE 72 MG. AND PLACEBO

Amount of vaginal discharge:

None = 0.

Hardly any = 1.

Less than a normal menstrual period = 2.

About the same as a normal menstrual period = 3.

So much that you had to call doctor for advice = 4.

Color of vaginal discharge:

Colorless = 0.

Pink = 1.

Pink with dark flecks = 2.

Red = 3.

At the 6-week checkup, the degree of uterine and breast involution, the amount and character of the lochia, and the date when menses resumed were recorded. If menses had not recurred by this time, the date of resumption was obtained by telephone at a later date.

Results

Four patients took fewer than the protocol specified and were excluded from the statistical analysis. Thus a total of 196 patients—98 on each treatment—were available for analysis. The

average age was 23.6 years for patients on chlorotrianisene 72 mg. and 24.7 years for those on placebo.

Statistical analysis (ordered chi-square tests¹⁰) performed on the data obtained demonstrated that chlorotrianisene 72 mg. was significantly ($p < 0.05$) more effective than a placebo in reducing engorgement and discomfort in the postpartum patients while in the hospital (Table 1). The drug was also significantly more effective than placebo in reducing lactation on postpartum days 2 and 3.

The percentage of patients who received at least one form of concurrent supplemental therapy on at least one day in the hospital was about 8 times higher for the placebo-treated patients than for the drug-treated patients. Of the patients who received concurrent therapy—breast binders, ice bags, and/or analgesics—4 of 96 (4.2%) patients on chlorotrianisene 72 mg. had at least one form of concurrent therapy, in comparison to 31 of 96 (32.3%) patients on placebo. Table 2 shows the percentage of patients who used a breast binder and/or ice bag and the percentage who used analgesics. The analgesics

TABLE 1
RESULTS OF TREATMENT DURING THE HOSPITAL STAY

Symptom	Day	Medication		Placebo		Difference (Placebo minus chlorotrianisene 72 mg.)
		No. of pts. reporting	Mean score*	No. of pts. reporting	Mean score*	
Engorgement	1	98	0	97	0	0
	2	96	0.03	97	0.35	0.32
	3	77	0.25	77	0.90	0.65
	4	18	0.33	23	1.09	0.76
	All	—	0.10	—	0.44	0.34
Lactation	1	98	0.01	97	0	—0.01
	2	96	0.06	98	0.20	0.14
	3	77	0.22	78	0.72	0.50
	4	18	0.44	23	0.74	0.30
	All	—	0.11	—	0.32	0.21
Discomfort	1	98	0	97	0.01	0.01
	2	96	0.01	96	0.26	0.25
	3	75	0.20	78	0.76	0.56
	4	18	0.28	23	0.96	0.68
	All	—	0.08	—	0.36	0.28

*Scores range from 0 to 2. 0 = none. 1 = mild to moderate. 2 = severe.

given were Demerol,* Phenaphen,† and codeine. Some patients used analgesics as well as breast binders and/or ice bags. Complete information on concurrent therapy was not available for 2 patients on each treatment (drug and placebo).

One patient (placebo-treated) failed to answer any questions at 14 days postpartum about breast discomfort, leakage, and vaginal discharge. Some patients did not answer all the questions about vaginal discharge. Fifty-six percent of the patients who had received drug reported no breast discomfort, 30% reported mild discomfort, 8% reported moderate discomfort, and 6% severe discomfort. Of patients who had received placebo, 25% reported no breast discomfort, 36% re-

ported mild discomfort, 29%, moderate discomfort, and 10%, severe discomfort. Table 3 shows the average score in each category and the difference in the means between the 2 medications. Ordered chi-square tests¹⁰ performed in each category to determine any difference between the 2 medications indicated that chlorotrianisene 72 mg. was significantly ($p < 0.05$) more effective than placebo in alleviating breast discomfort and suppressing breast leakage. There was no significant difference between drug and placebo in the categories of amount and color of vaginal discharge.

Results with drug and placebo were comparable in the 3 categories investigated at the 6-week checkup: lochia, uterine involution, and breast involution (Table 4).

*Winthrop Laboratories, New York, N. Y.
†A. H. Robins Company, Richmond, Va.

TABLE 2
PERCENTAGE OF PATIENTS USING
CONCURRENT SUPPLEMENTAL THERAPY IN HOSPITAL

Concurrent Therapy	Medication	Postpartum Day		
		1 and/or 2	3 and/or 4	Any
Breast binder and/or ice bag	Chlorotrianisene 72 mg.	0% (0/96 pts.)	1.3% (1/76 pts.)	1.0% (1/96 pts.)
	Placebo	6.1% (6/98 pts.)	22.4% (17/76 pts.)	20.8% (20/96 pts.)
Analgesic	Chlorotrianisene 72 mg.	0% (0/96 pts.)	3.9% (3/76 pts.)	3.1% (3/96 pts.)
	Placebo	9.2% (9/98 pts.)	19.7% (15/76 pts.)	21.9% (21/96 pts.)

TABLE 3
MEAN SCORES OF REPORTS ON 14-DAY QUESTIONNAIRE

Category	Medication		Placebo		Difference (Placebo Minus Chlorotrianisene 72 mg.)
	No. Pts.	Mean Score	No. Pts.	Mean Score	
Breast discomfort*	98	0.64	97	1.25	0.61
Leakage*	98	1.00	97	1.41	0.41
Vaginal discharge					
Amount†	98	1.71	97	1.85	0.14
Color‡	94	1.33	96	1.44	0.11

*Scored according to severity from 0 to 3.
†Scored according to severity from 0 to 4.
‡Scored from 0 (colorless) to 3 (red).

TABLE 4
LOCHIA, UTERINE INVOLUTION, AND BREAST INVOLUTION AT 6 WEEKS POSTPARTUM

Symptom	Medication	Results (Expressed in Percentage of Patients)		
		Normal	Abnormal	Not Stated
Lochia	Drug	93.9% (92/98 pts.)	2.0% (2/98 pts.)	4.1% (4/98 pts.)
	Placebo	87.8% (86/98 pts.)	4.1% (4/98 pts.)	8.2% (8/98 pts.)
Uterine involution	Drug	92.9% (91/98 pts.)	3.1% (3/98 pts.)	4.1% (4/98 pts.)
	Placebo	89.8% (88/98 pts.)	2.0% (2/98 pts.)	8.2% (8/98 pts.)
Breast involution	Drug	94.9% (93/98 pts.)	1.0% (1/98 pts.)	4.1% (4/98 pts.)
	Placebo	90.8% (89/98 pts.)	0% (0/98 pts.)	9.2% (9/98 pts.)

One patient each on drug and placebo reported abnormal lactation.

The average postpartum day (and standard deviation) of resumption of menses was Day 53 (± 12) for 93 patients who had taken chlorotrianisene 72 mg. and Day 53 (± 19) for 92 patients who had taken placebo. The median for the 185 patients, regardless of medication was 51 days. As of 6 weeks postpartum, menses had not returned in 2 patients on chlorotrianisene 72 mg.: one underwent hysterectomy, and the other became pregnant again. No data regarding resumption of menses were received for 3 patients on drug and 6 patients on placebo.

One patient on chlorotrianisene 72 mg. had postpartum urinary retention which was treated with an indwelling catheter and nitrofurantoin macrocrystals (Macrochantin).^{*} Another patient on chlorotrianisene 72 mg. had severe postpartum hemorrhage on the seventh postpartum day and required a D and C for control.

Two patients on placebo received additional drug therapy aside from analgesics: one took ampicillin trihydrate (Polycillin)[†] during the hospital stay for possible influenza, and one was given progesterone for postpartum amenorrhea about 4 months after delivery.

Discussion

In our experience, obvious breast engorgement is usually reported in approximately 20% of untreated non-nursing mothers; approximately 40% complain of painful breasts. If a non-nursing woman expects to receive treatment to relieve her distress from these symptoms but does not get it, she may feel neglected. She may wonder why her physician did not prescribe a medication such as the patient in the next bed received. The obstetrician must, therefore, be prepared to consider the use of a medication for the prevention of painful postpartum breast engorgement. In his responsibility to select one from the many preparations offered, he is obliged to balance effectiveness against cost (including hospital charge for parenteral administration), convenience of administration, and possible side effects.

Suppression of lactation, postpartum engorgement, and pain defies measurement by objective methods. In many studies, including the one

reported by us in this paper, postpartum administration of various other drugs, such as analgesics, must be considered in the final evaluation. As Markin and Wolst¹¹ have pointed out, reactions to the symptoms are subjective to a great extent, and, therefore, the final evaluation of medication must depend largely on the information given by the patients concerning the preparations used. The same authors demonstrated the necessity of a follow-up of the patient after she leaves the hospital, to be certain that suppression of breast symptoms has not been merely temporary.

To be valid and to minimize the fore-mentioned disadvantages, any experiment to evaluate prevention of engorgement must be a double-blind study and include a placebo identical in appearance with the test drug. Engorgement is a difficult symptom to manage, and unless pain is present, it is not significant. Minor leakage will occur in most patients with or without therapy. The patient's pain, therefore, becomes the important criterion.

In this study chlorotrianisene 72 mg. was significantly more effective than placebo in the alleviation of breast engorgement and discomfort both during the hospital stay and approximately 14 days postpartum. The results are generally similar to those of two other studies.^{12, 13}

Administration of chlorotrianisene 72 mg. was convenient because all medication could be given while the patient was still in the hospital. Estrogen withdrawal bleeding was not a problem in the patients receiving chlorotrianisene 72 mg. This study would indicate that withdrawal bleeding from chlorotrianisene 72 mg. is not a significant complication.

Summary

Two hundred postpartum patients who chose not to breast feed their babies were randomly assigned on a double-blind basis to chlorotrianisene 72 mg. (TACE 72 mg.) or a placebo b.i.d. for 2 days; 196 were available for statistical analysis. The purpose of the study was to investigate whether the drug would suppress lactation and diminish breast engorgement more effectively than placebo. Statistical analysis of the combined scores (used to rate severity of symptoms) for day 2 + day 3 of the hospital stay indicated that chlorotrianisene 72 mg. was significantly ($p < 0.05$) more effective than placebo.

^{*}Eaton Laboratories, Division of the Norwich Pharmacal Company, Norwich, N. Y.

[†]Bristol Laboratories, Division of Bristol-Myers Co., Syracuse, N. Y.

bo: there was less engorgement, lactation, and discomfort in the drug-treated group. The percentage of patients who received at least one form of concurrent supplemental therapy on at least 1 day in the hospital was about 8 times higher for the placebo-treated patients than for the drug-treated patients. At 14 days postpartum, chlorotrianisene 72 mg. was significantly more effective than placebo in the alleviation of breast discomfort and the suppression of breast leakage. There was no significant difference between the two medications in amount and color of vaginal discharge. At the 6-week postpartum check-up, results with the two medications were comparable in the categories of lochia, uterine involution, and breast involution. Menses returned about the same time in both treatment groups.

Requests for reprints to William P. Phillips, M.D., 408 South 16th Street, Fort Smith, Arkansas.

REFERENCES

1. Stein, W. W.: An evaluation of a combination of testosterone enanthate with estradiol valerate (Deladumone) for the inhibition of lactation. *Amer J Obstet Gynec* 76:108-117, 1958.
2. Bennett, E. T., McCann, E. C.: The inhibition of lactation with TACE. *J Maine Med Ass* 45:225-228, 1954.
3. Eichner, E., Goler, G. G., Sharzer, S., Horowitz, B.: Suppression of lactation engorgement. Clinical experiences with TACE. *Obstet Gynec* 6:511-515, 1955.
4. Manning, R. E.: Hormone therapy for the non nursing mother. A comparative study of Tace, Deladumone 2X and placebo. *Ohio Med J* 57:39-41, 1961.
5. Allison, G. J., Clayton, E. M., Jr.: The comparative effectiveness of preparations in the control of postpartum breast symptoms. *J Tennessee Med Ass* 58:45-47, 1965.
6. Ausman, D. C.: TACE—A long-acting estrogen administered orally using the vaginal glycogen index as a basis for human assay. *Wisconsin Med J* 53:322-324, 1954.
7. Greenblatt, R. B., Brown, N. H.: The storage of estrogen in human fat after estrogen administration. *Amer J Obstet Gynec* 63:1361-1363, 1952.
8. Kimura, K.: Fundamental and clinical experiments with chlorotrianisene. *Nichidai Igaku Zasshi* 22:757-772, 1963.
9. Thompson, C. R., Werner, H. W.: Fat storage of an estrogen in women following orally administered tri-p-anisylethchloroethylene. *Proc Soc Exp Biol Med* 84: 491-492, 1953.
10. Snedecor, G. W., Cochran, W. G.: *Statistical Methods*. Ames, Iowa, The Iowa State University Press, 6th Ed, 1967, pp. 240-248.
11. Markin, K. E., Wolst, M. D., Jr.: A comparative controlled study of hormones used in the prevention of postpartum breast engorgement and lactation. *Amer J Obstet Gynec* 80:128-137, 1960.
12. McQuarrie, H. G., Ellsworth, H. S., Harris, J. W., Stone, R. A., Anderson, A. E., III: Clinical and cytological evaluation of chlorotrianisene 72 mg. in postpartum suppression of lactation. Report of a scientific exhibit. Presented at AMA Convention, Chicago, June 21-25, 1970.
13. Morris, J. A., Creasy, R. K., Hohe, P. T.: Inhibition of puerperal lactation. Double-blind comparison of chlorothianesene, testosterone enanthate with estradiol valerate and placebo. *Obstet Gynec* 36:107-114, 1970.



Comparison of Cervical Pap Smears with Subsequent Diagnosis of Cervical Carcinoma

An Analysis of Arkansas Health Department Pap Smears for 1970 and 1971

Ruth C. Steinkamp, M.D., F.A.C.P., V.Anthony Harden, James S. Deneke, B.S.,
and Carl K. Uyeda, Ph.D.*

An integral part of the Arkansas Health Department's Family Planning Program, begun in late 1964, is screening and follow-up for cervical cancer. During the first year of the program, fewer than 20 Papanicolaou smears were obtained; in 1973, almost 30,000 were taken. A significant impact on earlier diagnosis has resulted. Proportion of *in situ* cervical carcinoma reported to the Arkansas Cancer Registry increased by more than 11% in the second three-year period of the program.¹ During the same period, there was a 4.6% decrease in the number of acceded patients with extension to nodes or distant or diffuse involvement. Despite these encouraging trends, 21.6% of all 1968-70 acceded cervical carcinoma patients had regional and nodal extension, or distant or diffuse involvement. Periodic screening of cervical cancer of all women at risk is needed to reduce further the proportion of late diagnoses.

The present report analyses the follow-up status of all women with Papanicolaou smear readings of Class II, III, and IV reported by the University of Arkansas Medical Center's Cytopathology Laboratory for smears obtained in the years 1970 and 1971. Maximum follow-up interval is 3½ years, allowing for a 6-9 month lag time for accession to the registry and 3 months for the other sources. Particular emphasis is given to the significance of Class II smears.

Methods

A total of 23,224 Pap smears were obtained for study during the years 1970 and 1971 in the Family Planning Clinics conducted by the Arkansas Health Department and the reporting

clinics of the Office of Economic Opportunity. Of these, a total of 18,423 readable smears were studied by the University of Arkansas Medical Center's Cytopathology Laboratory and are reported here. The remainder, reported by regional private laboratories, are not included in the present analysis.

The majority of patients screened were less than 45 years of age, the upper limit for family planning clinics. A few older women in chronic disease clinics were also screened.

Smear specimens were obtained by scraping the squamocolumnar junction of the cervix with a wooden spatula. Slide specimens were immediately fixed, forwarded to and screened by the Cytopathology Laboratory of the University of Arkansas Medical Center. All abnormal and 10% of Class I smears were confirmed by the cytopathologist (C.K.U.).

The UAMC Cytopathology Laboratory classification of Pap smear Class follows:

- I. Negative
- II. Atypical
 - Mild Atypia
 - Moderate Atypia
- III. Suspicious
 - Severe Atypia
 - Few Malignant Cells (*Equivocal*)
- IV. Positive
 - In Situ Carcinoma
 - Squamous Cell Carcinoma
 - Adenocarcinoma

(*Unequivocal*)

Follow-up of all Class II, III, and IV individual cytology reports was performed by checking the Arkansas Cancer Registry for the years 1970 through August, 1974.

Those patients not so identified were searched for the same years in the UAMC Gynecology

*Doctor Steinkamp is a Physician Administrator, MCH, Arkansas Health Department, and Chairman of the Arkansas State Cancer Society Uterine Cancer Task Force. Mr. Harden and Mr. Deneke are UAMC medical students. Doctor Uyeda is Associate Professor of Pathology and Director of the UAMC Cytopathology Laboratory. Reprints may be obtained from Dr. Steinkamp, Arkansas Health Department, 4815 West Markham Street, Little Rock, Arkansas 72201.

Tumor Clinic records and additional UAMC Gynecology Clinic files.

The search for all remaining unidentified individual cytology reports was continued by checking the on-going county health department quarterly reports. The quarterly reports are completed by the county health department nursing staff for all Class III and IV patients after patient home visit or other means of personal contact. The pathology diagnosis is recorded by the nurse if available from the patient's physician or the clinic.

Only those patients having a definitive diagnosis of carcinoma by pathological study of tissue were so recorded. Date of definitive diagnosis was noted.

For each patient identified with a diagnosis of cancer, the first recorded Pap smear in the two-year period was taken as the "initial" class. A comparison was made between the number of patients with a diagnosis of cervical carcinoma and the "initial" class reading.

Results and Discussion

Table 1 presents the number of smears by examination year for all readable slides and for all abnormal classes. Average age for patients with abnormal smears and with cancer are presented.

Internal consistency for pathology reading is suggested by the comparable abnormal smears per 1,000 readable, 24.7 and 25.9 for the respec-

tive years. By class, there was also a consistent pattern. The relatively young age reflects the age-biased population group. Patients identified with cancer averaged 3½ years older than all patients. In the five-year period, 1965-69, 70% of all acceded Arkansas cases of cervical carcinoma were in women 35 years of age or older.¹

Because of repeat smears, taken over varying periods of time with differing results, the 469 abnormal smears in 1970 and 1971 represent a total of 398 individual patients. Chart 1 presents the "initial" abnormal Pap smear class together with the number of patients found on

CHART I
PATIENTS WITH CARCINOMA OF CERVIX
DIAGNOSED WITHIN 3½ YEARS
AFTER PAP SMEAR
ACCORDING TO INITIAL PAP SMEAR CLASS
FOR 1970 AND 1971

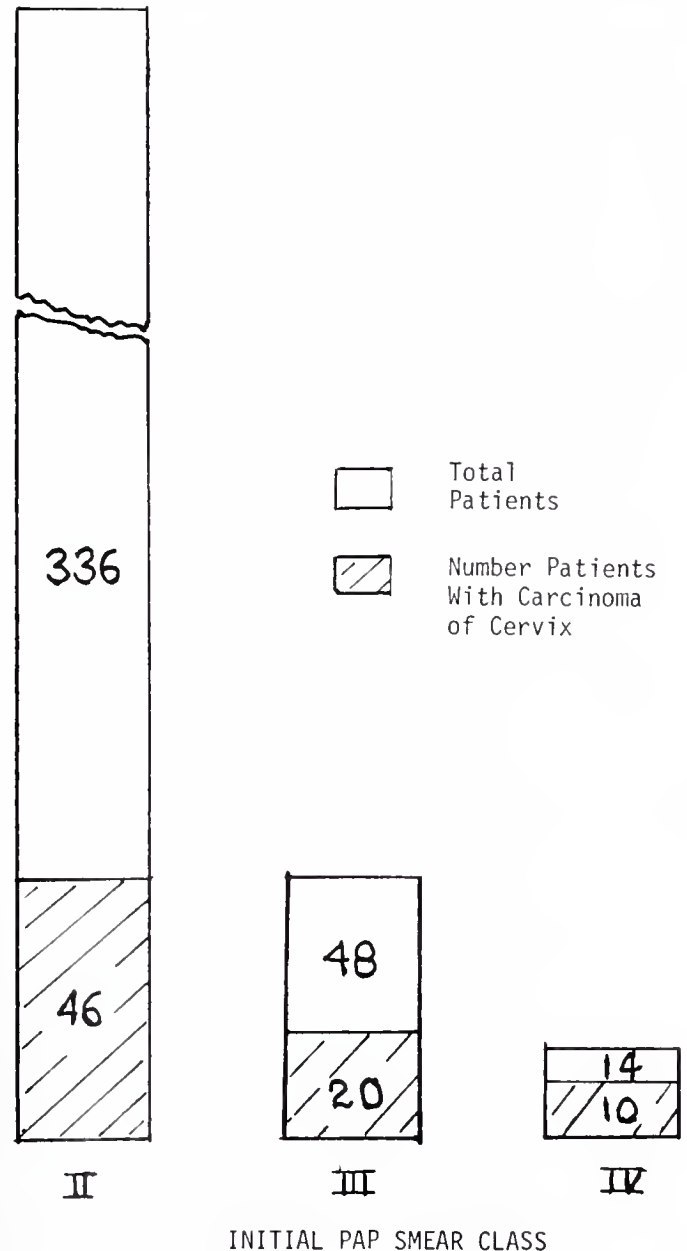


Table 1

Abnormal Papanicolaou Smears of Uterine Cervix

Number and Percent by Class and Year of Study

Class	1970		1971	
	Number	Percent	Number	Percent
All readable	7,582	100.0	10,841	100.0
II	163	2.2	228	2.1
III	23	0.3	36	0.3
IV	2	0.03	17	0.16
All Abnormal	188	2.53	281	2.56
Abnormal Smears per 1,000 readable	24.7		25.9	
Average age of patient with abnormal smear	26.7 years		26.0 years	
Average age of patient with cervical carcinoma by 1974	29.2 years		29.4 years	

COMPARISON OF CERVICAL PAP SMEARS WITH
SUBSEQUENT DIAGNOSIS OF CERVICAL CARCINOMA

search of follow-up materials to have carcinoma of the cervix. Forty-six, or 14% of Class II patients, 20, or 42% of Class III patients, and 10, or 71% of Class IV patients were so diagnosed within the maximum 3½ year follow-up period. The number of cases presented is insufficient for statistical analysis or comparison with other studies.

The 76 patients identified with cervical carcinoma may be considered the minimum number of total possible cases in this group; a ratio of 4.1 cases per 1,000 smears. Of the 76 cases, 65 had carcinoma *in situ*; 7 had localized disease at diagnosis; 4 had no diagnostic staging recorded. For the *in situ* group, there were 45 "initial" Class II smears; 12 with Class III smears, and 8 with Class IV. Two of those staged with localized disease had an "initial" Class II smear and 5 patients had Class III smears.

Subsequent status of "initial" Class I patients was not identified for this study. No effort was made to ascertain how many patients were lost to follow-up by moving to another state, by obtaining care at a hospital not reporting to the Arkansas Cancer Registry or other. In other Arkansas public health nursing activities, 85% or higher follow-up has been attained. Our ratio of diagnoses to smears is well within the range of 3.08 to 7.69 cases per 1,000 smears summarized by Owens² for 14 U.S.A. localities, and the range of 2.26 to 4.34 cases per 1,000 smears for the Texas Laboratory reported by Owens. The latter laboratory claims a 75 to 80% follow-up.

It is well known that first Pap smears detect a higher ratio of diagnoses per total smears than subsequent testing. Calculations by Owens² for 5 studies show an initial detection rate of 5.99 per 1,000 smears and a return rate of 1.63 per 1,000. Kaiser and colleagues³ found at first screening unsuspected carcinoma *in situ* in 3.1 per 1,000 white and 4.0 per 1,000 black residents and unsuspected invasive cervical carcinoma in 1.3 per 1,000 white and 1.8 per 1,000 black residents in a population of 151,000 women in Shelby County, Tennessee. Our population represents a mix of first and subsequent Pap smears.

Follow-up of Class I, or negative, Pap smears is outside the scope of this brief paper. It is important to recognize, however, that negative first-year cytology on second-year examination will become positive in 4.9 women per 1,000

restudied.⁴ At the present time, all women in the Family Planning Program receive a yearly Pap smear. If they leave the program, they are encouraged to continue the yearly check.

Knowledge of the significance of Class II findings of any one pathological laboratory is of great importance to the clinician. The number of patients with this finding who subsequently develop cancer within a short interval emphasizes the need for aggressive follow-up. Our result of 14% in this category known to have a diagnosis of cervical cancer within a 3½ year period compares to 12.7% in Owens'² 1970 series.

The earlier study by Richart and Barron⁵ on the natural history of cervical dysplasias, followed without biopsy or treatment, calculated the time for mild, moderate and severe dysplasias to complete a transition to carcinoma *in situ*. Median times ranged from 86 months for patients with mild dysplasia to 12 months for a patient with severe dysplasia. The media transit time for all dysplasias to carcinoma *in situ* was 44 months.

The Arkansas Health Department's current policy in following Class II smears is designed to bring these patients to earlier diagnosis. For the patient with Class II smear, treatment for vaginitis is carried out over a 2 to 3 week period. A repeat Pap smear is then performed. Those with Class I on repeat examination are retested within one year. The woman with a repeat Class II or greater result is immediately referred to her identified private physician, or, if she has none, to the nearest clinic for colposcopy-directed examination. Biopsy is performed if indicated. Our policy also calls for immediate referral and biopsy for all patients with Class III and IV smears. This approach is consistent with that of Nyirjesy.⁶

In this way, we hope to reduce the time interval prior to definitive diagnosis and to develop greater effectiveness in the detection and follow-up program. By improved communication between the laboratory, the clinic, the patients and the private physician, earlier detection and treatment can be enhanced to benefit the patient.

Summary

We have presented a brief report on the cervical cancer detection program of the Arkan-

sas Health Department. Attention is called to the number of patients with Class II Pap smears who become carcinoma positive within a $3\frac{1}{2}$ year period. The current policies for follow-up of abnormal smears are presented. Earlier diagnosis of cervical carcinoma at a curable stage is a goal of the Arkansas Health Department for all Arkansas women.

Appreciation is expressed to the following for advice or assistance in preparation of this report: R. C. Ramsay, Jr., M.D., Director, Medical Care Services, Arkansas Department of Health; Eva F. Dodge, M.D., Director, Arkansas Department of Health Family Planning, Maternal and Child Health Division, Arkansas Department of Health; Byron L. Hawks, M.D., Professor of Obstetrics and Gynecology, UAMC; Glen F. Baker, M.D., Acting Director, Anatomical Services, UAMC; Mrs. Lucy R. Utterback, Director of the Arkansas Cancer Registry; Mrs. Gladys Duncan and Mrs. Aliene Martin, Arkansas Cancer Registry; Miss Gwen Cross, UAMC Tumor Registry; Mrs. Dorothy Wright, UAMC Gynecology Tumor Clinic; the Arkansas Public Health Nurses; Health Department Clinicians, and Mrs. Carolyn Baxter, MCH, Arkansas Department of Health.

REFERENCES

1. Unpublished Data from the Arkansas Cancer Registry.
2. Owens, Henry B.: Effective Cytology With Quality Control. *Scanner*, Vol. XIII, No. 2, January-February, 1974, pp. 4-7.
3. Kaiser, Raymond F., Cyrus C. Erickson, Bennett E. Everett, Jr., Alexander G. Gilliam, Lloyd M. Graves, Mary Walton, and Douglas H. Sprunt: Initial Effect of Community-Wide Cytologic Screening on Clinical Stage of Cervical Cancer Detected in an Entire Community. Results of Memphis-Shelby County, Tennessee, Study. *J. of the National Cancer Institute*, Vol. 25, No. 4, October, 1960, pp. 863-881.
4. Christopherson, William M., James E. Parker, and James C. Drye: Control of Cervical Cancer. Preliminary Report on Community Program. *J.A.M.A.*, Vol. 182, No. 2, October 13, 1962, pp. 177-180.
5. Richart, Ralph M. and B. A. Barron: A Follow-up Study of Patients With Cervical Dysplasia. *Am. J. of Ob. and Gyn.*, Vol. 105, No. 3, October 1, 1969, pp. 386-393.
6. Nyirjesy, Istvan: Atypical or Suspicious Cervical Smears, An Aggressive Diagnostic Approach. *J.A.M.A.*, Vol 222, No. 6, November 6, 1972, pp. 691-693.



A. S. KOENIG, M.D., F.C.A.P.
 R. G. GIRKIN, M.D., F.C.A.P.
 O. L. DAVENPORT, M.D., F.C.A.P.
 KENT SMITH, M.D., F.C.A.P.
 A. S. KONEIG, III, M.D., F.C.A.P.

Pathology Laboratory

922 Lexington Avenue
 Fort Smith, Arkansas 72901
 Telephone: 785-1447

T3 and T4
 Diagnostic Isotope Studies
 Amniocentesis Analysis
 Serum Electrophoresis
 Immunoglobulins
 Urinary Ketosteroids
 Serum Cortisol
 Pregnancy Tests
 Hormone Assays
 Lipid Profiles
 Antibiotic Sensitivity Tests
 Tissue Examinations
 Cytology
 Medico-Legal Consultants

OBJECTIVE ADVISORS

FOR THE

HEALTH CARE PROFESSIONS

Professional Practice Consultants, Inc.

2510 Central Avenue — Suite 1
 Hot Springs, Arkansas 71901
 (501) 624-6877

"THE KEY TO SUCCESS"



Medical Personnel Needed

Dedicated Health Professionals
 needed to serve the Developmentally
 Disabled at the Arkansas Children's
 Colony, Conway, Ark.

Immediate openings for:

Medical Services Administrator
 — House furnished — Salary
 Open.

Staff Physician — Salary Open.

Please contact Hurlis V. Graham,
 Suite 300, Professional Bldg., No.
 Little Rock, Ark. 72116. Tele-
 phone: 501-371-1268.



Pro-Banthine®

brand of
 propantheline bromide

Indications: Pro-Banthine is effective as
 adjunctive therapy in the treatment of peptic
 ulcer. Dosage must be adjusted to the
 individual.

Contraindications: Glaucoma, obstructive
 disease of the gastrointestinal tract,
 obstructive uropathy, intestinal atony, toxic
 megacolon, hiatal hernia associated with
 reflux esophagitis, or unstable cardiovascular
 adjustment in acute hemorrhage.

Warnings: Patients with severe cardiac
 disease should be given this medication
 with caution. Fever and possibly heat stroke
 may occur due to anhidrosis.

Overdosage may cause a curare-like action,
 with loss of voluntary muscle control.

For such patients prompt and continuing
 artificial respiration should be applied until
 the drug effect has been exhausted.

Diarrhea in an ileostomy patient may indicate
 obstruction, and this possibility should be con-
 sidered before administering Pro-Banthine.

Precautions: Since varying degrees of urinary
 hesitancy may be evidenced by elderly males
 with prostatic hypertrophy, such patients
 should be advised to micturate at the time
 of taking the medication.

Overdosage should be avoided in patients
 severely ill with ulcerative colitis.

Adverse Reactions: Varying degrees of
 drying of salivary secretions may occur as
 well as mydriasis and blurred vision. In
 addition the following adverse reactions have
 been reported: nervousness, drowsiness,
 dizziness, insomnia, headache, loss of the
 sense of taste, nausea, vomiting, constipation,
 impotence and allergic dermatitis.

Dosage and Administration: The
 recommended daily dosage for adult oral
 therapy is one 15-mg. tablet with meals and
 two at bedtime. Subsequent adjustment to
 the patient's requirements and tolerance
 must be made.

How Supplied: Pro-Banthine is supplied as
 tablets of 15 and 7.5 mg., as prolonged-
 acting tablets of 30 mg. and, for parenteral
 use, as serum-type vials of 30 mg.

SEARLE

Searle & Co.

San Juan, Puerto Rico 00936

Address medical inquiries to: G. D. Searle & Co.
 Medical Department, Box 5110, Chicago, Ill. 60680 481

Office Orthopaedics

Subluxating and Luxating Patellae

H. Austin Grimes, M.D.*

requently a misdiagnosis of medical meniscus tear is made in knee injuries of the adolescent female. More often, it is a subluxating patella or a dislocated patella which has spontaneously reduced, which gives the patient her complaints. The pain is indicated to be along the medial border of the patella because of stretching of the capsule and retinaculum and can occur any time after 10 years of age.

Most authors state that females have a higher incidence of subluxating and dislocating patellae. However, Hughston² states that the incidence is about equally divided between male and female athletes.

Many activities contribute to the subluxating and dislocating patellae, i.e., cheerleading, jumping with the foot planted in neutral or internally rotated position with upper body external rotation, a dance craze years ago called the "Twist," and the "turn-out" in ballet when done improperly. (Fig. 1) and other activities which require similar rotation extension stress from a knee flexed or partially flexed position.

Anatomically the female is more likely to have unstable patellae due to an increased angle of femoral-tibial joint because of a wider pelvis than the male. (Fig. 2) Other contributing factors are:

1. Poorly developed vastus medialis muscle (Fig. 3)

2. Higher than normal insertion of the vastus medialis muscle on the patella
3. Laterally angulated infrapatellar tendon
4. Poorly developed lateral femoral condyle
5. Hyperelasticity of the joint capsule

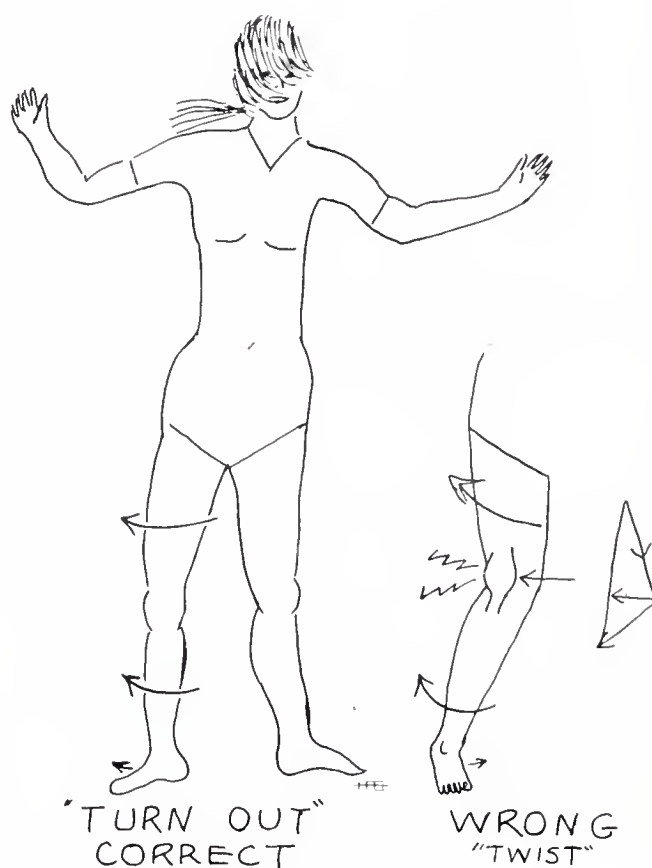


FIG. 1

*Little Rock Orthopedic Clinic, P.A., Post Office Box 5270, Little Rock, Arkansas 72205.

6. A high riding patella
7. A knock-knee deformity

Not all of the above factors need to be present and frequently only two or more are demonstrated on examination in the symptomatic patient.

The Fairbanks or "apprehension test" is performed by lateral pressure on the 45 degree flexed knee and occasionally is elicited in full extension as well. (Fig. 4) When positive the patient becomes apprehensive and states "it is about to happen again," meaning that the patella is about to dislocate.

X-ray examination in the usual views, the antero-posterior and lateral view of the knee, plus a tangential view of the patella (Fig 5) will suffice. The lateral x-ray may confirm the high riding patella and the tangential view may show

the subluxated state of the patella and/or the deficient lateral femoral condyle. (Fig. 6) Occasionally arthrograms are helpful in pre-operative evaluation of the knee.

Treatment consists initially of immobilizing the knee in the post operative knee splint which is removable and is worn for two to three weeks

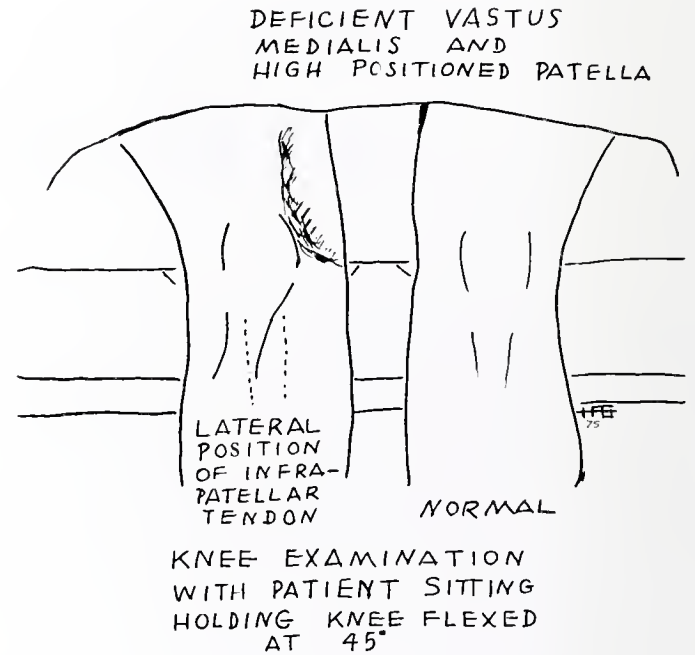
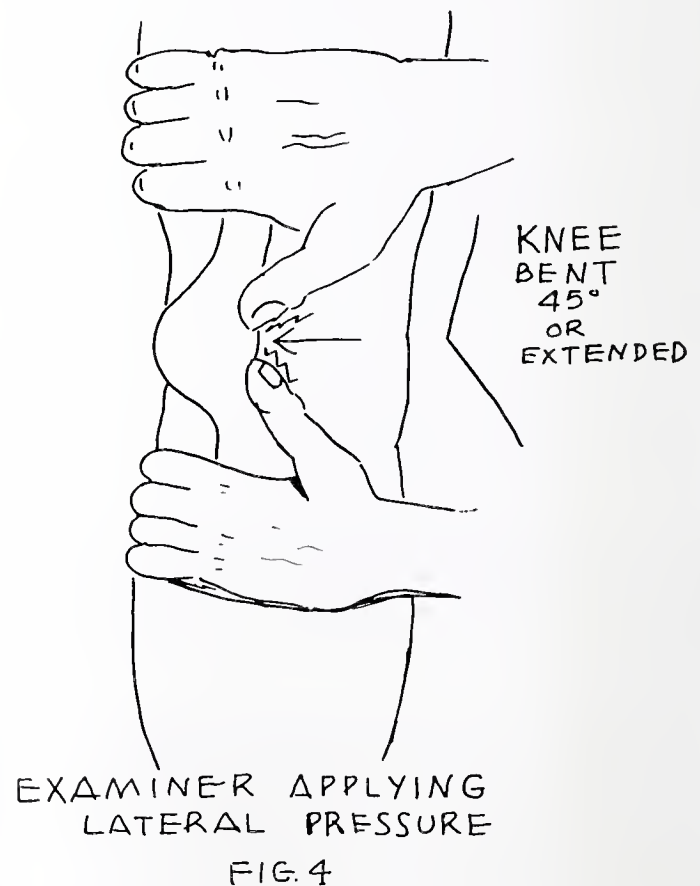
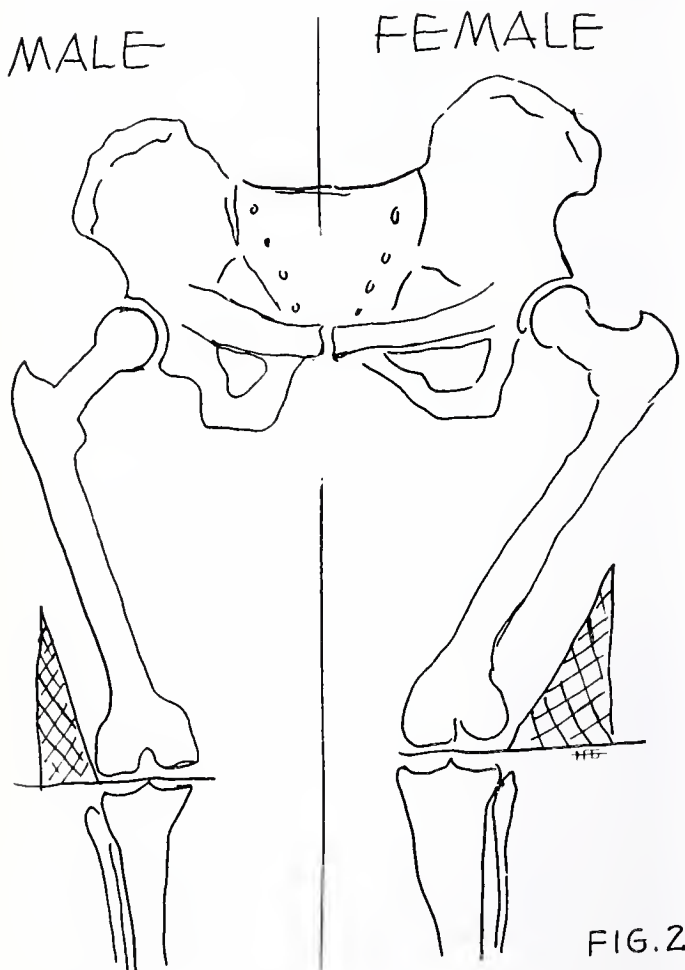
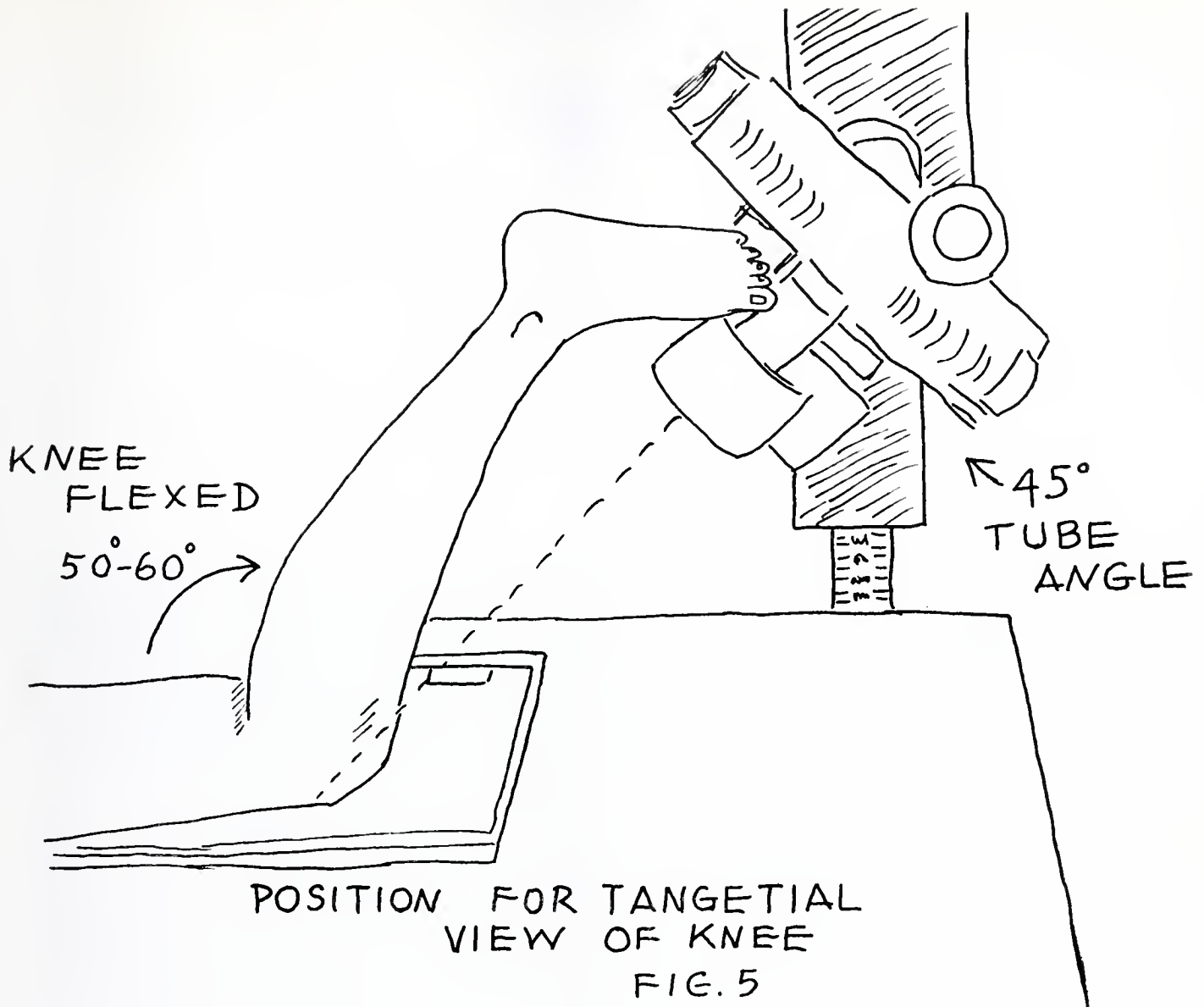


FIG.3





along with quad setting exercises. Later if the condition persists or the symptoms are of pain and a feeling of apprehension on extension of the leg under forced conditions, 15 to 20 degrees of flexion and progressive resistance exercises are instituted. Avoidance of the aggravating activity would be the logical solution, if desired by the patient. If the patient desires to continue with the same activity and subluxation or dislocation recurs then surgery may be necessary to correct the abnormal pull of the quadriceps mechanism.

Transfer of the infrapatellar tendon medially along with release of the tight lateral capsule are the basic steps of most all methods of repair. It may be prudent to open the joint to look for joint mice which may be detached cartilage fragments of the patella or lateral femoral condyle.

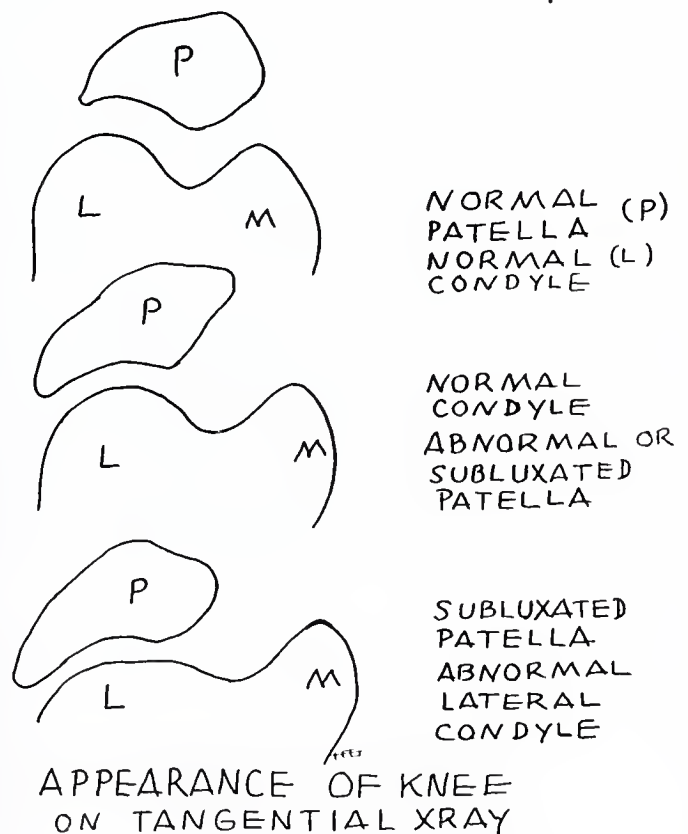


FIG. 6

Some knee joint symptoms may persist post operatively due to traumatic arthritis which results from repeated abnormal pressures over the lateral femoral condyle and patellar articular surfaces. (Fig. 7)

BIBLIOGRAPHY

1. Cahill, Bernard R.: Subluxing Patella. J. Sports Medicine, Mar.-Apr., 1973, pp. 36-39.
2. Hughston, Jack C.: Subluxation of the Patella. An Instructional Course Lecture. J.B.J.S. 50:1003-1026, 1968.
3. Hulfet, A. J.: Diagnosis and Management of Internal Derangements of the Knee Joint. An Instructional Course Lecture. J.B.J.S. 19:63-77, 1970.
4. O'Donoghue, Don H.: Treatment of Injuries to Athletes, Second Edition, W. B. Saunders, Philadelphia, 1970, p. 543.
5. Smillie, I. S.: Injuries of the Knee Joint. Third Edition. Williams and Wilkins, Baltimore, 1962, p. 284.

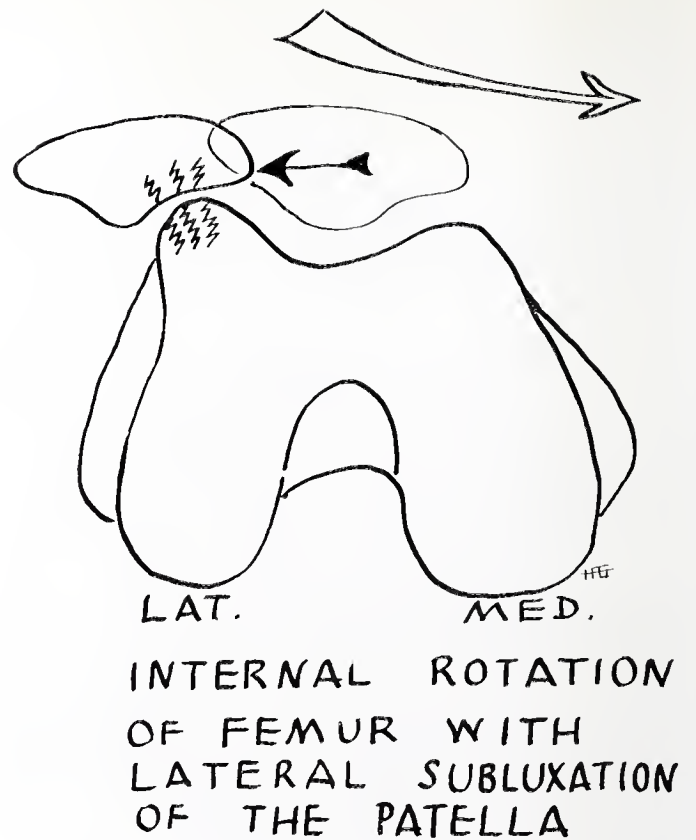


FIG. 7





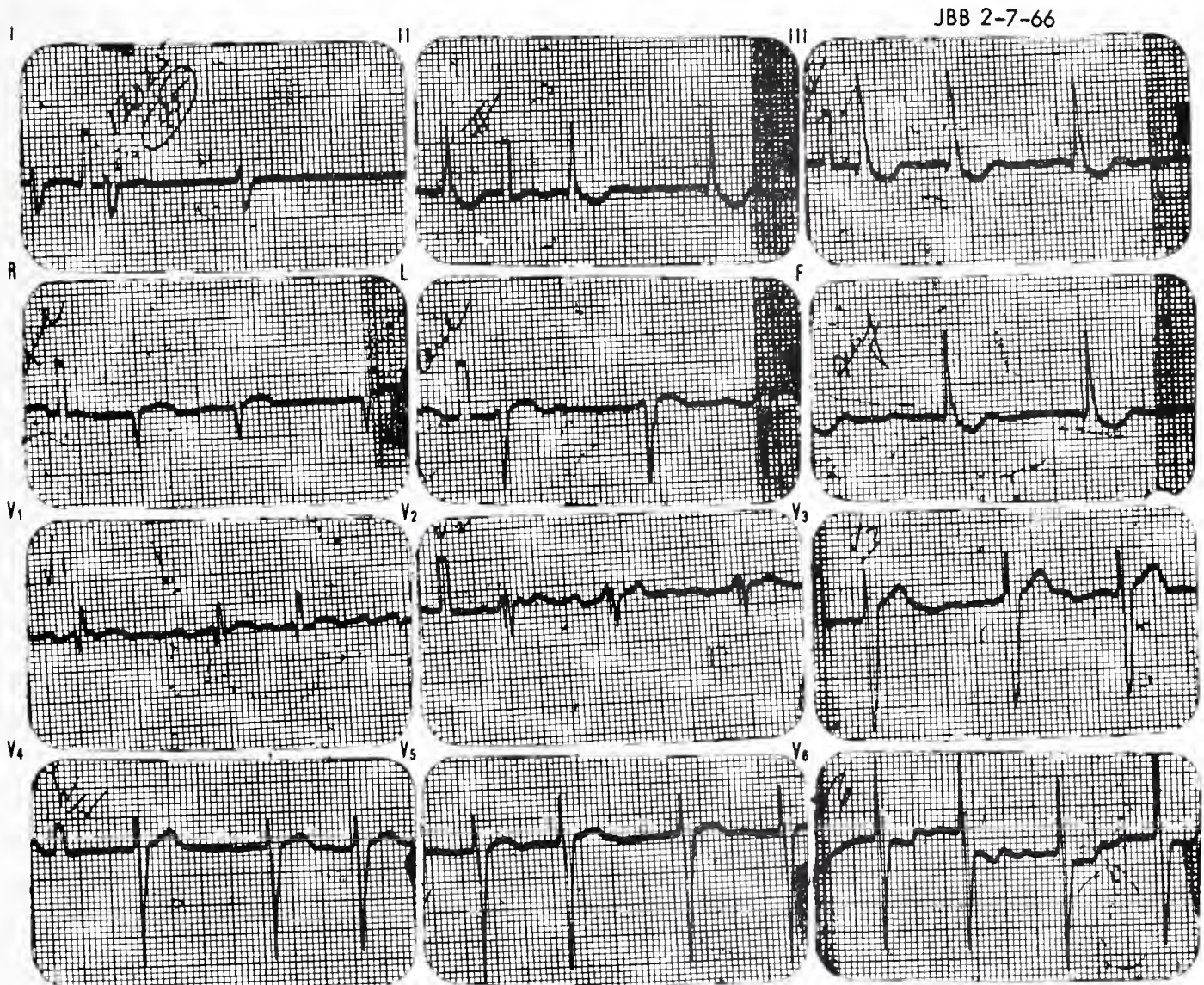
ELECTROCARDIOGRAM

OF THE MONTH

The Department of Cardiology, University of Arkansas Medical Center

(See Answer on Page 180)

JBB —This is a 42-year-old male who had rheumatic heart disease with a clinical impression of mitral stenosis and possible aortic insufficiency.



Robert T. Bulloch, M.D.
Professor of Medicine
Chief, Cardiology Section
University of Arkansas Medical Center
Little Rock, Arkansas 72205



Preventing Botulism in Home-Canned Foods

Miss Carol Hopkins* and Mrs. Fleeta I. Fore**

As food prices soar, more and more people have turned to home canning as a less expensive means of keeping food on the table. The newcomer to canning, as well as the more experienced, should review the problems of home-canning and realize that the very deadly organism, *Clostridium botulinum* is a threat to any improperly canned product.

Commonly referred to as botulism, this type of food poisoning is rare but often fatal. The disease is not caused by the organism itself but by a toxin produced as the organism multiplies. When taken into the body by way of contaminated food, this toxin produces symptoms of nausea, vomiting, diarrhea, double vision, difficulty in speaking and swallowing, respiratory paralysis and death. These symptoms may appear as soon as a few hours or up to eight days later.

Most people do not care to eat or even taste spoiled foods, canned or otherwise; but here is where the danger of botulism lies. Toxic foods may or *may not* appear to be spoiled. By no means should the food be "test-tasted" to check for spoilage. This "test-tasting" has often been fatal. If in doubt discard any food that appears to be spoiled or when the canning, home or commercial, appears to be spoiled or faulty.

The organism that produces the botulinal toxin is a spore former that occurs naturally in the soil. By producing spores, it is able to resist destruction by freezing or inadequate heating (boiling for an hour is not enough!). To thrive, the organism requires a lack of oxygen. Canned food is an ideal environment.

We see that the threat of botulism is not to

be taken lightly. Proper canning to destroy the organism is the first step. The second step is to destroy the toxin formed, if any, while the can or jar was in storage. It is as easy to destroy the heat-sensitive toxin as it is difficult to destroy the heat-resistant spores. Boiling the food for 15 minutes should destroy the toxin, thereby preventing illness or death.

If it is so easy to destroy the toxin, why all the fuss about canning? Because there are other organisms that will grow in canned foods and spoil appearance and taste. Some of these could also cause food poisoning but are less dangerous. Steps taken to destroy botulism will also destroy others.

Here are some points to remember when canning or preparing canned foods:

1. Clean all utensils and working areas.
2. Wash foods thoroughly.
3. Use only jars and lids designed for canning. Others may not withstand the high temperatures.
4. Never use old, stale rubber rings or re-use lid seals. They will not give a perfect seal.
5. Let jars cool slowly. Cooling them quickly might cause the seal to break.
6. Use a pressure cooker when possible.
7. Beware of canned foods that are improperly sealed, show signs of leakage or swelling.
8. Follow canning directions.

While it is true that *Clostridium botulinum* favors low-acid foods such as green beans, corn, okra, meats and dairy products, some high acid foods such as home-canned tomatoes, peaches and blackberries have also been the source of botulinal poisoning. Do not take chances. Botulism can be prevented easily and effectively by properly canning and preparing foods.

*Public Health Educator, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.

**Microbiologist II, Food Laboratory, Division of Public Health Laboratories, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.



EDITORIAL

Cataracts as a Model of the Aging Process

Alfred Kahn, Jr., M.D.

Aging carries with it the loss of or the decrease of the acuity of the special senses. These changes have been looked on as inevitable and the therapy of these conditions has been directed at treating the developed, mature disease rather than prophylaxis. The only hope of preventing cataracts, for example, is to perform good basic research into the cause of cataracts.

The Ciba Foundation Symposium No. 19 was devoted to the aging changes of the eye and is entitled "The Human Lens—In Relation to Cataract." It was chaired by Antoinette Pirie of the Nuffield Laboratory of the University of Oxford. The participants are for the most part distinguished ophthalmologists. Although this book is of particular interest to the eye physician, it is of some interest to all who deal with an aged population.

In Dr. Pirie's introductory remarks, she states that the lens consists of a cortex and a nucleus; her colleagues have studied nuclear cataracts and believe that they result from unfolding of nuclear proteins which polymerize and form brown proteins. Most nuclear cataracts involve only the foetal lens; it is a rare cataract that involves the whole lens.

R. A. Weale has reviewed the effects of the aging lens on vision. Aside from the gradual loss of accommodation, Weale says that there is a decrease in the transmission of light; he goes on to state that the change in visual performance may be caused by an increase in short wave length absorbance. One interesting point in this paper is the statement, with proof to support it, that the lens protects by screening out ultra violet light which has an adverse effect on the vitreous humour.

Weekers, Delmarcelle, Luyckx-Bacus, and Col-

lignon discussed the "Morphological Changes of the Lens With Age and Cataract Formation." They found that the lens thickens as humans age. Cataracts may slow this growth rate and may even reduce lens thickness. Lenses may undergo intumescence which increased the thickness of the lens. Some lens undergo liquification. Whether a lens undergoes liquification (Phakolysis) or intumescence has a bearing on the type of surgery which is likely to be successful; cryosurgery is suggested for intumescent lenses.

Philipson and Fagerhome have a chapter on "Lens Changes Responsible for Increased Light Scattering in Some Types of Senile Cataract." Opacification is due to light scattering; they report that in early cataracts changes in organic material of protein nature is the cause of changes in refraction. Subcapsular cataracts start as vacuoles that coalesce and give an irregular layer. The lens containing lens tends to have a lower than normal protein content and water. Supranuclear cataracts are characterized by water clefts, which contain less protein and thus have altered refractive indices. Nuclear cataracts are accompanied by pigmentation and generalized light scattering throughout the nucleus; the scattering is apparently due to dense collections of cell matrix.

Differences in proteins and in the water balance of the lens in nuclear and cortical types of senile cataract was the subject of the report of Maraini and Mangli. They state that lenses which develop cataracts show a decrease in protein content and the amount of protein which is water soluble decreases; gamma crystallin shows most of the absolute decrease, and it is not known if this is due to protein loss, decreased synthesis or conversion to fewer but more complex molecules.

Sodium content of cataract-containing lenses is above normal.

George Duncan's paper was the role of membranes in controlling ion and water movement in the lens. Duncan describes the lens as a densely packed mass of fiber cells with a layer of epithelial cells on the anterior surface only. The lens membrane is responsible for keeping the different concentration of ions in the lens from the surrounding fluid; the lense is more permeable to potassium and chloride than sodium. Thus, sodium requires more force to move than potassium and chloride. Duncan describes the driving force as the negative charge on the macro molecules in the lens. If the ion pump is damaged, the lens swells. It further appears that sugars and amino acids cross membranes as in the lens, with a direct relationship to the flux of sodium — perhaps this can happen across the posterior as well as the anterior lens membrane.

Friedburg has found enzymatic difference in clear lenses and cataract containing lenses. In totally opaque cataracts most enzymes decrease especially glyceraldehyde phosphate dehydrogenase and sorbitol dehydrogenase. In the nuclear cataract lens, there is a deficiency of glucose phosphate dehydrogenase. Do these enzyme changes lead to cataractous changes due to decrease protein synthesis?

Broekhurze states that significant deviations in lipid composition have not been found in cataractous lenses, but alterations in membrane structure and lipid metabolism were found. For a good discussion of normal biologic membranes the reader should see the article by R. A. Capaldi in *SCIENTIFIC AMERICAN*, Vol. 230, page 26, March, 1974.

Kmoshita and Merola have presented a paper on thiol groups. They postulate that glutathione keeps the protein thiol groups in reduced form in normal lenses; cataractous lenses may not have this ability. The oxidation of thiols leads to disulfide bonds. This intermolecular cross-linking in turn leads to high molecular weight proteins which are less soluble. This may play a role in cataract formation.

The proteins in the lens were reported in several papers. L. R. Croft suggests that gamma crystallin which is a low molecular weight protein could not be isolated in cataractous lenses; it might be altered in cataract to an insoluble

fraction through oxidation and devaturation. In any event, it is clear that the cataractous lenses are relatively deficient in low molecular weight proteins.

Immunologic studies on lenses have been made and reported by W. Manshi. The lens has organ specific properties. It is difficult to induce an auto-immune reaction by lense extracts without using an adjuvant. Immunogenic cataracts have never been confirmed by direct tests for immunoglobulins within the lens. Using immunological methods, the lens has been studied for abnormal proteins in cataract formation. Manshi suggests that cataracts of very different origins have similar protein changes and these protein changes involve only a very small number of proteins. In short, clinically different cataracts may have a similar molecular mechanism. The mechanism is probably one of degradation and not synthesis.

The importance of these studies is that the investigation of cataracts may well provide a simple model for studying aging using a very limited specimen both qualitatively and quantitatively speaking.



ANSWER—Electrocardiogram of the Month

The electrocardiogram of 2/7/66 showed atrial fibrillation with a satisfactory ventricular response, right ventricular enlargement as documented by a right axis deviation of $+95$ degrees, an early R in leads V1 and V2 with a drop in R/S ratio between V1 and V2 and an absolute R/S ratio in V1 of greater than 1. The deep prominent S waves in V5 and V6 further support the diagnosis of right ventricular enlargement. The T waves are abnormal in many leads, suggesting some element of digitalis effect in leads II, III, and aVF and a non-specific ST-T abnormality in lead V6. The ST and T wave is difficult to evaluate in leads V1 and V2 because of the coarse atrial fibrillation. Leads V4 and V5 are at half standard and the T waves would be within the limits of normal in these leads.

At postmortem examination the expected right ventricular enlargement was found with a right ventricular weight of 128 grams. However, the left ventricle was also enlarged with a free wall and septal weight of 221 grams. Tricuspid stenosis and insufficiency were also present in addition to the expected lesions. Thus, another example of the enlargement of one ventricle obscuring concomitant, though relatively less enlargement in the other.

MEDICINE IN THE



THE MONTH IN WASHINGTON

The unusual one-day "public oversight" hearings of the House Ways and Means Committee's Health Subcommittee to determine if the Department of Health, Education and Welfare is superseding Congressional intent in an increasing number of Medicare cost-control regulations was marked throughout by angry confrontation between the HEW Secretary and health providers.

Undaunted by a solid array of heated opposition from medical and hospital groups, Secretary Casper Weinberger told the Subcommittee that the four disputed Medicare regulations will save about \$250 million a year and "improve the quality of care."

The hearing bringing together Weinberger and his critics was called by Subcommittee Chairman Dan Rostenkowski (D-Ill.) who said he was sorry the confrontation had to take place. "I hope the Subcommittee can remove roadblocks. We should really try to get the government and the health care industry out of the courtroom and into the conference room where the debate belongs."

Four lawsuits have been filed against the HEW Department to overturn the regulations. Members of hospital and physicians' groups including the American Medical Association, urged the lawmakers at the hearing to crack down on HEW for going beyond the intent of law. But there was little indication from the Subcommittee that any swift action is contemplated.

Weinberger, easily fielding most of the Subcommittee's questions, refused to acknowledge any merit in the private sector's slashing attacks on the regulations, insisting the regulations followed the intent of Congress and were needed to curb costs. He suggested the remedy would be in seeking to have Congress change the laws, rather than in suing HEW.

The regulations under fire:

- ★ Social Security's Utilization Review (UR) final regulations requiring elaborate insti-

tutional post admission review mechanisms.

- ★ Reducing the schedule of limits on hospital inpatient general routine service costs from the 90th to the 80th percentile.
- ★ Limitation on recognition of physicians' prevailing charge increases, based on an economic index.
- ★ Termination of the inpatient routine nursing salary cost differential.

Stressing a common theme among the witnesses, the AMA cited "a general feeling of futility concerning administrative action felt by the public as a whole, but especially by groups subject to and particularly affected by federal regulation." Ernest T. Livingstone, M.D., Chairman of the AMA Council on Legislation, said many professional associates display "an attitude often of exasperation, consternation and indignation with respect to the bureaucratic administration of government programs.

"Administrative regulations," Dr. Livingstone said, "often expand upon or subvert the intent of Congress." This is why, he explained, the AMA for the first time in its history recently sued the HEW Department, over the UR regulations. Federal Judge Julius Hoffman upheld the AMA's contentions and issued a restraining order against carrying out the UR rules. The HEW Department has recommended that the case be appealed.

A key AMA argument was that admission review within 24 hours is directed almost solely to protect hospitals against possible non-reimbursement—not the patient's health. Judge Hoffman said that if "patients who cannot pay cannot be hospitalized when diagnosis is unclear, the potential injury to the patient's health may be irreparable."

Edgar T. Beddingfield, M.D., Vice Chairman of the AMA Council on Legislation, said HEW barged ahead on the physicians' Medicare fee index without giving interested parties a chance to question the details of the regulations. There is no justification in either the law or its legisla-

tive history for imposition of a national economic index, Dr. Beddingfield told the panel, noting that Medicare fee recognition "has long lagged behind current trends in physicians' fees. Because of the unique two-year delay, he said the index limitations could result in shifting the financial burden to Medicare-Medicaid patients by driving reimbursement further below realistic fees.

Also criticizing the Medicare fee constraints, John Alexander McMahon, President of the American Hospital Association, said "this unilateral arbitrariness is precisely the problem with the general approach to program economic controls adopted by the Social Security Administration in carrying out its responsibilities. It clearly suggests that SSA continues to utilize law to suit its own concerns and not to reflect in a careful and publicly acknowledged way a commitment to honor legitimate costs in the delivery of health care."

* * * *

The physicians' Medicare fee index angrily debated by the AMA and the HEW Secretary during the Ways and Means Health Subcommittee "public oversight" hearing, limits reimbursement to 17.9 percent above levels prevailing in fiscal year 1973.

Now in effect, the new payment formula, according to HEW Secretary Weinberger, will save the government an estimated \$26 million during this fiscal year out of a total Medicare Part B outlay of \$3.2 billion.

Most of the objections to the national formula which is pegged to various cost-of-living indexes were brushed aside by HEW and Social Security in issuing the regulations in final form.

The AMA has charged that Congress intended local, rather than national indexes; that the limitation was not supposed to be on a procedure-by-procedure basis but an aggregate; and that HEW allowed insufficient time for discussion on the manner in which it has decided to draw up the index. The control will simply force more physicians to abandon the assignment method, AMA warned.

Weinberger argued that while the Senate Finance Committee report suggested that a separate index for each locality be calculated, "a national index is being used, at least initially, because the data required to construct local indices are not now available."

The index will be applied to every prevailing charge in each locality. It will also be applied on a cumulative basis with fiscal 1973 serving as the base year. Increases in prevailing charges over the 1973 base year level cannot exceed the rate justified by the economic index calculated for that period.

Any individual prevailing charge that would increase by more than 17.9 percent over the 1973 base level will have its rate of increase limited to 17.9 percent. Prevailing charges that have increased by less than 17.9 percent will be unaffected. Any portion of the allowable increase not used will be carried forward to future years.

Because physicians are incorporating in increasing numbers, Internal Revenue Service data are no longer a good source of information about changes in physicians' office practice expenses, Weinberger said. Pertinent components of the Consumer Price Index, the Wholesale Price Index, Bureau of Labor Statistics wage indices, and data from Medical Economics were used instead.

* * * *

F. David Mathews, 39-year-old President of the University of Alabama, has been selected by President Ford to be the new Secretary of the Health, Education and Welfare Department.

Incumbent Secretary Casper Weinberger has said repeatedly in recent months he wished to return to California. He was not ousted from the post. His resignation is effective August 10, 1975.

Mathews is supposed to be more liberal than Weinberger whose chief forte was economy and rigid controls to effect economy. Completely unknown on the national political scene, the youthful University President has described himself as an independent. Rumor has it that he is at odds with Alabama Governor George Wallace.

A Phi Beta Kappa graduate of the University of Alabama, Mathews holds a Ph.D. in history from Columbia University. He has been with the state university since receiving his doctorate.

Whatever Mathews' other qualifications, the White House obviously had some 1976 political considerations in mind in tapping the southerner from Wallace's state.

The Senate must confirm Mathews for the post, but no troubles are seen.

As HEW Secretary, Mathews will be at the center of domestic controversies, including welfare, social security, education and the big fed-

eral health programs. He will spearhead the Ford Administration's expected drive for its own national health insurance program next year. He will also have to cope with the lawsuits filed by medical and hospital organizations against control regulations imposed by Weinberger. And there's always the vexing and apparently insoluble problem of straightening out the organizational mess at HEW.

* * * *

The Association of American Medical Colleges (AAMC) has filed suit to prevent the Department of Health, Education and Welfare from implementing Medicare-Medicaid hospital cost-control regulations, that became effective July 1, 1975.

The action seeks a preliminary injunction against regulations which set limits on routine service costs in short-term, non-federal hospitals.

AAMC says the regulations fail to consider factors in hospital cost measurement that Congress wrote into law; namely, the scope of services offered, the quality and intensity of care, and hospitals' educational programs. As a result, many hospitals' daily costs will soar far beyond the amounts allowed, AAMC says.

HEW's reimbursement schedule for these routine daily costs groups hospitals according to their urban or non-urban location, area per-capita income, and bed number. Similar interim regulations have been in effect for the past year, but at a higher reimbursement rate.

"If these new regulations are allowed to stand, Medicare patients could lose up to \$68 million worth of hospital services next year," said John A. D. Cooper, M.D., President of AAMC.

Medicaid charges also will be affected, he points out, since by law, Medicaid hospital charges cannot exceed those of Medicare. Other third-party payers are likely to use the new schedules in setting payment rates, he added.

"The new ceilings for payments will work a tremendous hardship on U. S. hospitals," he said. "More importantly, they will, for the first time since Medicare began, place many Medicare patients in jeopardy of having to pay for a portion of their hospital costs."

Particularly hard hit would be the nation's teaching hospitals, said Charles Wolman, Administrator of Yale-New Haven Hospital, New Haven, Connecticut. AAMC estimates 733 hos-

pitals, about 12.8 percent of the total, would be adversely affected.

"Johns Hopkins University Hospital, in Baltimore, would have a maximum (for daily routine services) of \$120," he said, "while D. C. General Hospital, 34 miles away, would be allowed \$174.

"Duke University Hospital (in Durham, N. C.) would be allowed \$89 while nearby Charlotte, N. C., Memorial Hospital would receive \$120."

Wolman's own hospital, Yale-New Haven, has been allotted a daily allowable charge of \$174.

"Duke suffers, for instance, because of a low per-capita income level in its area. Duke's costs are probably 10-15 percent less than ours, due to lower labor costs," said Wolman, "but they certainly are far more than half as much."

Interim regulations have been in effect for the past year which set Medicare daily hospital charges at the 90th percentile of the national total. The new regulations lower this to the 80th percentile.

"The interim regulations . . . have many of the serious faults of the new regulations," said Dr. Cooper. "We decided to live with them for a year, and not take legal action earlier, because the Secretary promised in a press release June 6, 1974, that the revisions would incorporate criteria which would make them less arbitrary and capricious. It is obvious that he has not kept his promise, and our only recourse is in the courts."

* * * *

REPORT OF AMA ANNUAL CONVENTION June 1975

Atlantic City, New Jersey
Purcell Smith, Jr., M.D., Delegate

In a most important session, the delegates at the 124th Annual Convention urged vigorous AMA action in a number of medical problem areas, including malpractice and federal intervention, and approved a substantial dues increase to assure the necessary financial support. Repeatedly emphasizing stronger AMA involvement in confronting problems facing local physicians, an overwhelming majority of the House voted to raise annual dues of regular members to \$250, intern-resident dues to \$35, and maintain student dues at \$15.

This summary covers many of the subjects considered during the twenty-two hour and thirty-seven minute meeting, the longest in recent mem-

ory, but it is not meant to be a complete report of all actions taken.

ELECTIONS:

Delegates selected Richard E. Palmer of Alexandria, Virginia, as president-elect. Trustees elected were Joe T. Nelson of Texas, Robert Hunter of Washington, and Jere Annis of Florida, all of whom were re-elected; Joseph M. Boyle of California and Lowell Steen of Indiana are newly elected trustees.

REPORT OF THE AMA PRESIDENT:

Dr. Max Parrott, in his inaugural address, warned that medically speaking, efficiency which is optimum production at the least cost in time and money, means something far different from quality. Such efficiency could subvert quality of medical care, which he defined as "giving the best appropriate service, regardless of the time required, and regardless of cost." He also warned about the clear prospect that in any squeeze play between federal regulators of medicine and the regulated, the patient, too, will be crushed.

Dr. Parrott expressed concern that physicians have so much to do and say in Washington, and across the land, with so little time. He spoke for an AMA determined enough to save the individual spirit of medicine and preserve the quality of care. The best way to maintain a spirited and determined AMA, according to Dr. Parrott, is to give it "a voice which is clear and distinct amid the hubbub of controversy." Thus Dr. Parrott proposed abolishing the offices of AMA president, president-elect, vice president, and immediate past president. He further urged that the speaker and vice speaker of the House of Delegates be given votes on the Board of Trustees, and that the chairman of the board be elected directly by the House after nomination by the Board. Thus, according to Dr. Parrott, the chief leaders and spokesmen of the AMA would be the board chairman, acting for the elected officers and the House, and the executive vice president acting for the staff. His recommendations were referred to the Council on Long-Range Planning and Development, which is studying possible reorganization of the AMA.

SUMMARY OF ACTIONS OF THE HOUSE OF DELEGATES

I. ASSOCIATION AND INTERNAL MATTERS OF THE HOUSE:

Dues Increase and Related Priorities: In in-

creasing annual dues of regular members from \$110 to \$250, delegates also served clear notice of a new and aggressive stance by the AMA in dealing with the many problems facing the nation's physicians. In the malpractice problem, the House called for the AMA to take immediate actions to help ease the crisis, including the formation of an AMA-sponsored professional liability reinsurance company. This company will provide backup or second-level coverage for those state medical societies that have sponsored their own medical liability insurance programs.

Delegates also endorsed a substitute resolution applauding the recent suit filed by the AMA against HEW regulations which mandate post-admission certification of hospital patients, and left no doubt that a primary reason for approving the dues increase was to provide fiscal support not only for the present suit, but for similar actions as well. Thus the second resolve of the resolution reads: "That the Board be encouraged to continue to take such action in the future on further legislation or government regulations that threaten the availability of physicians to provide quality medical care to patients." The House was informed that the Board of Trustees has instructed the AMA Office of General Counsel to lay the legal groundwork for possible suits against the new federal health planning program, HEW regulations for the proposed "Maximum Allowable Cost" purchase of drugs, and objectional features of proposed health manpower legislation should those features be enacted.

In other priorities related to the dues increase, the House called for continuing efforts to rebuild the AMA on a sound financial basis, and strongly supported a reshaping of the AMA publishing program as well as a restructuring of the organization itself.

Advertising-Publications: Acting on further information provided by the Special Committee of the House appointed at Portland last December, delegates endorsed "a policy of aggressive advertising promotion" in AMA publications. The House also urged that the 10 specialty journals be placed on a self-sustaining subscription basis, or that appropriate arrangements be reached with the specialty societies involved. It will be left to the Board to determine the eventual fate of *Prism*, so long as the disposition is to the fi-

financial advantage of the AMA. Thus, *Prism* could be sold, or it could be continued if it can be put on a paying basis. The House also authorized the Board to set subscription rates for all publications, including *Today's Health*, excepting only *JAMA* and *American Medical News*.

Organizational Structure: The House endorsed the concept of restructuring the AMA, including Councils and Committees, and directed its Council on Long-Range Planning and Development to submit a definitive report at the fall Clinical Meeting. Key elements in the report are expected to be the 1975 AMA Plan, and its clustering of AMA priorities into five major areas: (1) organizational structure; (2) resolving the malpractice crisis; (3) fighting increased government intervention; (4) maintaining AMA's leadership role in medical education; (5) and strengthening AMA resources.

In other actions on Association and Internal Matters, the House: (1) adopted a resolution to permit newly-elected delegates to begin their terms on January 1 or on July 1 at the discretion of state societies; (2) amended the delinquency provisions of the Constitution and Bylaws to include future assessments, as well as dues; (3) and urged constituent societies to provide full membership privileges for medical students at nominal dues.

II. PHYSICIANS AND GOVERNMENT:

Reimbursement Under Government Health Programs: The House strongly reaffirmed the AMA's long-standing position that physicians participating in government health insurance programs should be reimbursed on the basis of usual, customary and reasonable charges. The delegates also requested the Council on Medical Service to examine the Medicaid and Medicare programs to see if reimbursement did meet AMA policy, and to report back at the Honolulu Clinical Meeting. The House also adopted report JJ of the Board, which updates Board actions in objecting to the proposed payment of usual, customary and reasonable Medicare fees based on a national economic index as recently promulgated in regulations published in the Federal Register.

Federal Health Planning Program: The House unanimously supported the Board in its recent actions to oppose implementation of the Na-

tional Health Planning and Resource Development Act enacted by the last Congress. The delegates pledged support for "any action, including legal action," that the Board deems appropriate and effective in preventing implementation of the new planning law.

PSRO Policy Reaffirmed: Delegates reaffirmed present AMA policy on PSRO's, and defeated a call for repeal of the PSRO law. The policy basically calls for AMA action to seek constructive amendments to the law and appropriate regulations and directives, and to support continued monitoring of the program. The policy also holds that should the PSRO program become too restrictive, however, the Board can seek repeal. And here again, the house cited the possibility of legal opposition if it becomes appropriate.

In other actions related to peer review, delegates urged physicians to "continue to perform peer review directed at increasing the quality of patient care and reducing its cost," and also urged physicians not to seek compensation for non-government peer review participation as established in hospitals. The Board endorsed compensation for government-connected peer review programs, however.

In other actions related to Physicians and Government, the House: (1) urged that the AMA seek repeal of an amendment to federal law which equates psychologists and optometrists with physicians in the provision of medical care to government employees under health insurance programs; (2) and endorsed continued effort for adoption of the AMA's Current Procedural Terminology in government health programs; (3) and encouraged the Board to speed up efforts to rectify abuses in the promulgation of regulations in the Federal Register.

III. PHYSICIANS AND THE PUBLIC:

Professional Liability Proposals: In endorsing a series of proposals aimed at mitigating malpractice problems, the House stressed that the continued ability of physicians to provide care to patients was a prime motivating factor. While adopting a substitute resolution supporting the use of "all available legal means" by local physicians in seeking reforms in professional liability insurance, for example, it was emphasized that work slowdowns were basically a commitment to continued patient care rather than personal financial gain in the traditional sense of a strike.

The final version of the resolution reads: "The AMA recognizes that physicians are entitled to use all available legal means, without jeopardizing the medical care of their patients, to protest when intolerable and unwarranted burdens are placed upon their patients, the Association, or its members." The resolution also recognizes that "the primary commitment of the AMA and its physician members is to the essential medical needs of the people of this nation."

In other malpractice actions, the House urged renewed AMA assistance to state societies in seeking legislative enactment, and public endorsement of, mechanisms such as voluntary arbitration plans, and changes in tort law to relieve statutory elements which contributed to malpractice problems. The House also reaffirmed its stand against claims-made types of insurance coverage, and voted to encourage the federal government to provide coverage for physicians employed by government.

National Health Insurance: Delegates supported the national health insurance bill of the AMA which has been introduced in Congress. The bill would provide both basic and comprehensive benefits for all Americans, but would minimize federal administration and financing. During a health insurance debate in the House, considerable sentiment was expressed for a national catastrophic insurance coverage program, but the subject was referred to the Board for further study.

IV. PHYSICIANS AND HOSPITALS AND MEDICAL SCHOOLS:

Medical Staff Prerogatives in Patient Care: A joint report of the Councils on Medical Education and Medical Service provided a detailed study of possible medical staff problems posed by the increasing appointment of salaried chiefs of staff and department heads by hospital governing bodies. The report pointed out that medical staff rights and prerogatives could thus be shifted to governing boards, and made several recommendations for local medical staffs and medical societies to counter the trend.

The House also endorsed a Board report urging AMA members on the Joint Commission on Accreditation of Hospitals to seek to amend JCAH standards to provide due process for physicians employed in medico-administrative positions. In related actions, delegates supported

measures to prevent local or regional duplication of JCAH functions, and urged that JCAH be requested "to limit requirements for medical audit or other quality assurance activities by medical staffs" to those whose necessity can be "documented" by the AMA Board of Trustees.

Medical Schools: The House voted to continue opposition to medical manpower legislation now before Congress which would require medical students to repay capitation grants to their schools or else provide "in-kind" service in areas stipulated by government, and which would provide federal control of the number and distribution of residencies. At the same time, delegates endorsed efforts to increase the \$10,000 maximum limit on federally-insured loans to medical students, and to encourage a continuation of federal support for medical and health manpower programs.

V. MISCELLANEOUS ACTIONS OF THE HOUSE:

Miscellaneous House actions included: (1) encouragement of the development of medical-legal symposia involving medical and law students by AMA and ABA representatives; (2) and a recommendation that all medical students be given opportunities for primary care experiences in inner city or rural areas.



Dr. Louis U. Rushing

Dr. Louis U. Rushing of Texarkana died July 6, 1975, at the age of fifty-six. He was born in Little Rock, May 1, 1919, and was a 1950 graduate of the University of Arkansas School of Medicine.

Dr. Rushing was a general practitioner and had been plant physician at the D and Z Army Ammunition plant in Texarkana. He was a member of the Miller County Medical Society, Arkansas Medical Society, the American Medical Association, and he was a veteran of World War II.

Dr. Rushing is survived by his wife, Margaret, and three daughters.

THINGS TO COME

The 18th Annual Meeting of the South Central Association of Blood Banks will be held February 18-20, 1976, at the Astroworld Hotel, Houston, Texas.

For additional information, please contact:
(Mrs.) Floyd Bleker, Executive Secretary
South Central Association of Blood Banks
4300 North Lamar Boulevard
Austin, Texas 78756

* * * *

Symposium on Cancer Chemotherapy

A one-day Symposium on Cancer Chemotherapy will be held November 5, 1975, at the Conrad Hilton Hotel in Chicago, Illinois. The Symposium is sponsored by the University of Chicago Cancer Research Center. The program will consist of addresses and round tables by Dr. Vincent T. DeVita, Director, Division of Cancer Treatment, National Cancer Institute; Dr. Saul A. Rosenberg, Professor of Medicine and Radiology, Stanford University School of Medicine; Dr. Joseph R. Bertino, Director, Cancer Research Center, Yale University School of Medicine; Dr. Gianni Bonadonna, Istituto Nazionale Per Lo Studio e La Cura Dei Tumori, NCI, Milan, Italy; Dr. Charles A. Coltman, Jr., Chief Hematologist, Oncology Department of Medicine, Lackland Air Force Base, Texas; and Dr. James K. Luce, Mountain States Tumor Institute, Boise, Idaho.

The following topics will be discussed: Combined Modality Therapy, Pharmacologic Considerations of Chemotherapeutic Agents, Adriamycin, Bleomycin, Breast Cancer, Lymphoma, Acute Leukemia and Sarcomas and Carcinomas Other Than Breast Cancer. Registration forms may be obtained by writing: John E. Ultmann, M.D., Director, University of Chicago Cancer Research Center, Box 444, 950 East 59th Street, Chicago, Illinois 60637.

The Cardiopathy of Aging III

A Symposium on The Cardiopathy of Aging III will be presented by the Veterans Administration and the University of Arkansas College of Medicine, co-sponsored by the Council on Clin-

ical Cardiology of the American Heart Association and the Arkansas Heart Association.

The Symposium will be held March 18-19, 1976, in the Worthen Auditorium, Capitol Avenue at Center Street, Little Rock, Arkansas. Registration fee, which covers expenses of the course and includes coffee, luncheon and social hour, is \$20 for Veterans Administration employees and \$40 for other physicians. The course has been approved for 8 hours credit by the Arkansas Academy of Family Physicians.

For information and registration form, please write: Program Director, Cardiopathy of Aging III, Arkansas Heart Association, 909 West Second Street, Box 1610, Little Rock, Arkansas 72203.

Southwest Allergy Forum

The Southwest Allergy Forum will hold its next annual meeting at the Hilton Palacio del Rio Hotel in San Antonio, Texas, May 22-25, 1976. For information, write Publicity Chairman, Dr. Peter B. Kamin, 601 Oak Hills Medical Building, San Antonio, Texas 78229.

1976 New Orleans Graduate Medical Assembly

The thirty-ninth annual New Orleans Graduate Medical Assembly will be held March 29-April 1, 1976, at the Fairmont-Roosevelt Hotel. The program is accredited by the American College of Emergency Physicians. For information relating to the meeting, write: Miss Lois Neary, Executive Director, The New Orleans Graduate Medical Assembly, 1430 Tulane Avenue, New Orleans, Louisiana 70112.

Clinical Neuro-Otolaryngology Course Slated

The University of Pittsburgh School of Medicine announces the Third Course in Clinical Neuro-Otolaryngology, March 25-27, 1976, at the Eye and Ear Hospital in Pittsburgh. The course is designed for the practitioner of Otorhinolaryngology or Neurology and residents in training, to aid in the understanding of the various neurological aspects of otorhinolaryngological disorders. The focus will be on practical clinical evaluation and management. The course is acceptable for American Medical Association credit hours in Category I. For further information write: Sidney N. Busis, M.D., Course Director, Eye and Ear Hospital of Pittsburgh, Pittsburgh, Pennsylvania 15213.

Inter-American Symposium on Internal Medicine

Sponsored by the Department of Medicine, The University of Oklahoma in association with

the National Academy of Medicine of Mexico. To be held at the Centro Medico Nacional of the Instituto Mexicano Del Seguro Social in Mexico City, Mexico, January 12-15, 1976.

The theme of this course will be "What's New in Diagnosis and Therapy." The faculty will include the members of the Department of Medicine, The University of Oklahoma, and renowned educators from Mexico and Canada. Subject material will feature discussions in gastroenterology, cardiovascular, renal, pulmonary, hematology-oncology, endocrinology and infectious diseases.

For further details on the course, group air fares, hotel accommodations and post-symposium tours contact: James F. Hammarsten, M.D., and Solomon Papper, M.D., Co-directors, the University of Oklahoma Health Science Center, College of Medicine, Department of Medicine, Post Office Box 26901, Oklahoma City, Oklahoma 73190.

* * * *

PSYCHOSOMATIC SYMPOSIUM

Saturday, October 4, 1975

9:30-10:00 "Choice of Patients for Hysterectomy"

Dr. Michael J. Daly, Professor and Chairman, Department of Obstetrics and Gynecology, Temple University Medical Center, Philadelphia, Pennsylvania

10:00-10:30 "Psychiatrists' View of the Role of the Surgeon as a Medical School Teacher"

Dr. Fred T. Kolouch, Adjunct Assistant Professor of Surgery, Assistant Professor of Psychiatry, University of Utah Medical School, Salt Lake City, Utah

11:00-11:30 "Brain Syndromes and Their Management"

Dr. Fred B. Charatan, Chief of

Psychiatry, Jewish Institute for Geriatric Care, Associate Professor of Psychiatry, State University of New York, Stony Brook, New York

11:30-12:00 "Research on Obscenity and Pornography"

Dr. Roger W. Libby, Visiting Associate Professor and Acting Research Director, The Institute for Family Research and Education, Syracuse, New York

12:00- 1:30 Box Lunch — Small group meetings with guest speakers — sign up at registration

1:30- 2:00 "Hypnosis in Treatment of Pain"

Dr. Fred T. Kolouch

2:00- 2:30 "Psychosexual Evaluation of Patients"

Dr. Michael J. Daly

3:00- 3:30 "Sexual Function in Old Age"

Dr. Fred B. Charatan

3:30- 4:00 "Emerging Sexual and Marital Life Styles"

Dr. Roger W. Libby

Meeting will be over in plenty of time for you to have dinner and be early for the Arkansas-TCU football game.

Registration Fee: \$5.00 — includes box lunch.
Course Credit: Program is acceptable for 8 hours by AA of F. P.

Acknowledgment: Merck Sharp Dohme, Roche Laboratories, Pfizer Laboratories.

For further information contact:

Fred O. Henker, III, M.D.,

Program Director

University of Arkansas Medical Center

4301 West Markham Street

Little Rock, Arkansas

Telephone: 664-5000, Ext. 203





PERSONAL AND NEWS ITEMS

Members Named to EMS Advisory Council

Governor David Pryor recently appointed 13 members of the Emergency Medical Services Advisory Council. The Council was created by the General Assembly to regulate and coordinate emergency medical programs. Representing the Medical Society on the Council are Dr. Warren Murry of Fayetteville, Dr. Samuel Landrum of Fort Smith, Dr. Eugene Towbin of Little Rock, and Dr. James Blackmon of Arkadelphia.

Prescott Family Clinic Opens

Dr. James T. Russell, Dr. Michael C. Young, and Dr. Richard P. Portis have announced the opening of the Prescott Family Clinic, 301 Hale Avenue, in Prescott.

Doctors Speak to Nashville Rotary

Six Nashville doctors spoke to the local Rotary Club recently on problems facing community medical care and the Howard County Memorial Hospital. Physicians on the program included Drs. Joe King, Robert Sykes, Edwin Dildy, Herschel Wilmoth, John Wesson, and Samuel Peebles.

Dr. Collie Honored for Thesis

Dr. William R. Collie of Little Rock was

awarded the New Orleans Neurological Society prize for the best scientific paper of the year for his senior thesis presentation this June. The paper was entitled "A New Dominant Gene Causing Striated Muscle Atrophy, Arthrogryposis Multiplex Congemita, and Frequent Perinatal Death."

Dr. Ferguson Addresses Chamber

Dr. T. Murray Ferguson of West Memphis spoke to the members of the Board of Directors of the West Memphis Chamber of Commerce about problems facing that city's medical community. Those topics included the need for more doctors, expanded medical facilities, and medical malpractice insurance.

Governor Appoints Doctors to Committee

Governor David Pryor appointed a seven-member committee to investigate possibilities of helping Vietnamese physicians at Fort Chaffee, Arkansas, in locating in rural communities in Arkansas. Physicians named to the special ad hoc committee were Dr. Stanley Applegate of Springdale, Dr. Thomas A. Bruce and Dr. Winston K. Shorey of Little Rock.



Woman's
Auxiliary

The delegates to the 1975 Auxiliary convention in Atlantic City made many important changes, including a change of name to "American Medical Association Auxiliary." This is in keeping with the policy of accepting both husbands and wives of physicians as members.

The House of Delegates also voted a \$3.00 increase in dues, bringing National dues from \$4.00 to \$7.00 per member. The increased dues, which

will meet current demands and the rising costs of overall programing on the National level, will not be collected until January 1, 1976. This is the beginning of the 1976-77 National Auxiliary year.

The 1974-75 Auxiliary contribution to AMA-ERF was \$1,361,564.21, which was an increase of more than \$150,000.00 over the previous year. The Arkansas Auxiliary, under the chairmanship of Mrs. David Barclay, contributed \$10,575.01.

Mrs. Erle Wilkinson of Tennessee was installed as President. In her inaugural address, Mrs. Wilkinson called for the use of the tremendous potential force of the Auxiliary by being involved, both individually and as a group, in the improvement of the health and health care of America.



NEW MEMBERS

Dr. James L. Gardner

The Garland County Medical Society has added the name of Dr. James L. Gardner to its membership roll. He is a native of Britton, Oklahoma.

Dr. Gardner attended Southeastern Louisiana College at Hammond, and was graduated from Hendrix College, Conway, Arkansas, with a B.A. degree in 1969. He was graduated from the University of Arkansas School of Medicine in 1973 and completed his internship at the Baptist Medical Center in Little Rock.

Dr. Gardner is in General Practice at the Doctor's Clinic, 125 Greenwood, in Hot Springs. He is associated with Dr. George Queen and Dr. Sanford Hutson, III.

Dr. Sanford E. Hutson, III

Dr. Sanford Hutson, III, has been admitted to the Garland County Medical Society. He is a native of Clarendon, Arkansas.

Dr. Hutson attended Georgia Tech College, Collegeboro, and is a graduate of the University of Arkansas with a B.S. degree. He was graduated from the University of Arkansas School of Medicine in 1969. Dr. Hutson interned at St. Vincent Infirmary in Little Rock. He practiced in Stuttgart, Arkansas, from 1970 until 1971, and in Broken Bow, Oklahoma, from 1971 until 1974.

Dr. Hutson is in General Practice at the Doctor's Clinic, 125 Greenwood, in Hot Springs. He is associated with Dr. George Queen and Dr. James Gardner.

Dr. James Yee Suen

The Pulaski County Medical Society has accepted Dr. James Y. Suen for membership. He is a native of Dermott, Arkansas.

Dr. Suen graduated from the University of Texas, Austin, in 1962 with a B.A. degree. He was graduated from the University of Arkansas

School of Medicine in 1966 and completed his internship at San Francisco General Hospital. From 1969 until 1973, he was a resident in Otolaryngology at the University of Arkansas Medical Center in Little Rock. He was a Fellow in Head and Neck Surgery at the M. D. Anderson Hospital and Tumor Institute, Houston, Texas, from 1973 until 1974.

He is Board Certified by the American Board of Otolaryngology and a member of the Society of Academic Chairmen of Otolaryngology. Dr. Suen is Chief of the Division of Otolaryngology, University of Arkansas Medical Center, 4301 West Markham in Little Rock.

Dr. William Gordon Bradley

The Ashley County Medical Society has accepted Dr. William G. Bradley, a native of Lewellen, Nebraska, for membership.

Dr. Bradley received his B.S. degree in 1950 from Colorado Springs, Colorado Springs. In 1954, he received an M.S. degree from Texas A and M College, College Station. He was graduated from the University of Tennessee College of Medicine in Memphis in 1959. His internship and residency in General Surgery were taken at St. Joseph's Hospital in Memphis, Tennessee. Dr. Bradley was in General Practice in Monte Vista, Colorado, for 14 years.

Dr. Bradley is in General Practice at 310 North Alabama, Crossett, associated with Dr. Frederick N. Burt and Dr. Donald L. Toon.

Dr. Jerry Douglas Blaylock

Dr. Jerry D. Blaylock, a native of Clarksville, Arkansas, is a new member of the Craighead-Poinsett County Medical Society.

Dr. Blaylock attended the College of the Ozarks in Clarksville and received his B.S. degree in 1965 from Arkansas Tech in Russellville. He was graduated from the University of Arkansas School of Medicine in 1969. Dr. Blaylock's internship and residency in Psychiatry were taken at the University of Arkansas Medical Center in Little Rock. He is a member of the American Psychiatry Association and the Group Psychotherapy Association.

Dr. Blaylock is practicing Psychiatry at 505 East Matthews in Jonesboro.

Dr. Roland C. Reynolds

The Craighead-Poinsett County Medical Society has accepted for membership Dr. Roland

C. Reynolds. He is a native of Shreveport, Louisiana.

Dr. Reynolds received his B.S. degree in 1969 from Harding College in Searcy, Arkansas. He graduated from the University of Arkansas School of Medicine in 1973. His internship was completed at the Baptist Medical Center in Little Rock.

Dr. Reynolds is in Family Practice at the Family Practice Clinic, 923 Union, Jonesboro. He is associated with Dr. James M. Robinette.

Dr. Robert Odus Lawrence, Jr.

Dr. Robert O. Lawrence, Jr., is a new member of the Craighead-Poinsett County Medical Society. He is a native of Boydell, Arkansas.

Dr. Lawrence graduated from the University of Arkansas with a B.S. degree in 1969. He was graduated from the University of Arkansas School of Medicine in 1973 and completed his internship at the Baptist Medical Center in Little Rock.

Dr. Lawrence is now in General Practice at 417 East Matthews, Jonesboro, in association with Dr. Joe H. Stallings, Jr.

Dr. Joe H. Stallings, Jr.

Dr. Joe H. Stallings, Jr., a native of Morrilton, Arkansas, is a new member of the Craighead-Poinsett County Medical Society.

Dr. Stallings received his B.A. degree with honors from Hendrix College, Conway, Arkansas, in 1969. He was graduated from the University of Arkansas School of Medicine in 1973 and completed his internship at the John Peter Smith Hospital in Fort Worth, Texas. He is an Associate Member of the American Academy of Family Physicians.

Dr. Stallings is in General Practice at 417 East Matthews, Jonesboro, associated with Dr. Robert O. Lawrence, Jr.

Dr. Charles Howard Morris

The Plaski County Medical Society has accepted Dr. Charles H. Morris for membership. He is a native of Austin, Texas.

Dr. Morris graduated in 1966 from Louisiana State University, Baton Rouge, and he was graduated from the Louisiana State University School of Medicine in New Orleans in 1970. His intern-

ship was completed at the University of Arkansas Medical Center in Little Rock. Dr. Morris received his residency training in Radiology at the Medical Center in Little Rock and Charity Hospital of Louisiana in New Orleans. He is Board Certified by the American Board of Radiology.

Dr. Morris is associated with the Department of Radiology at the University of Arkansas Medical Center, 4301 West Markham, Little Rock.

Dr. William Robert Green

The Craighead-Poinsett County Medical Society has accepted Dr. W. Robert Green for membership. He is a native of Camden, Arkansas.

Dr. Green received a B.S.-B.A. degree in 1962 from the University of Arkansas. He was graduated in 1968 from the University of Arkansas School of Medicine and completed his internship at Confederate Memorial Center, Shreveport, Louisiana. His residency in Radiology was completed at the University of Tennessee College of Medicine in Memphis. He is Board Certified by the American Board of Radiology, and he is a member of the American College of Radiology.

Dr. Green is practicing Radiology at 224 East Matthews in Jonesboro.

Dr. Glenn E. Dickson

The Craighead-Poinsett County Medical Society has added the name of Dr. Glenn E. Dickson to its membership roll. He is a native of Bond, Arkansas.

Dr. Dickson received his B.S. degree in 1961 and his M.S. degree in 1963 from Arizona State University. He was graduated from the University of Tennessee College of Medicine in Memphis in 1968. Dr. Dickson interned at the Good Samaritan Hospital, Phoenix, Arizona. He completed his General Surgery residency at the John Gaston Hospital in Memphis and his Orthopedic Surgery residency at the Campbell Clinic.

Dr. Dickson is now practicing Orthopedic Surgery at 505 East Matthews, Jonesboro.

Dr. Isaac David Rogers

The Garland County Medical Society has accepted Dr. I. D. Rogers for membership. He is a native of Morgan County, Kentucky.

Dr. Rogers attended the University of Kentucky, Lexington, and was graduated from the

University of Kentucky College of Medicine in 1970. His internship and residency were completed at the University of Alabama Hospital and Clinic in Birmingham. He is Board Certified by the American Board of Internal Medicine.

Dr. Rogers is practicing Internal Medicine at 101 East Whittington, Hot Springs, associated with the Burton-Eisele Clinic.

Dr. Leon Randle Coker

The Jefferson County Medical Society has accepted Dr. Leon Randle Coker for membership. He is a native of Hot Springs, Arkansas.

Dr. Coker graduated from Henderson State Teachers College with a B.S. degree in 1957. He was graduated from the University of Arkansas School of Medicine in 1964. His internship and residency in medicine were completed at Barnes Hospital, St. Louis, Missouri. Dr. Coker has been in general practice for six years and has also served two and one-half years in the United States Public Health Service.

He is now in General Practice at 1710 West 42nd Street, Pine Bluff.

Dr. Richard N. Pearson

The Benton County Medical Society has added Dr. Richard N. Pearson to its membership roll. He is a native of Sheridan, Wyoming.

Dr. Pearson graduated from the University of North Dakota, Grand Forks, with a B.A. degree in 1961, and an M.S. degree in 1965. He was graduated from the University of Kansas School of Medicine, Kansas City, in 1967. His internship and residency in General Surgery were completed at St. Francis Hospital, Wichita, Kansas.

Dr. Pearson is practicing General Surgery at 1105 West Chestnut Street, Rogers.

Dr. Harry McKinley Harmon

Dr. Harry M. Harmon is a new member of the Benton County Medical Society. He is a native of Corning, Arkansas.

Dr. Harmon graduated in 1964 with a B.A. degree from Hendrix College in Conway, Arkansas. He was graduated from the University of Arkansas School of Medicine in 1968. Dr. Harmon interned at St. Johns Hospital, Tulsa, Oklahoma. He was a resident in Pediatrics at the University of Arkansas Medical Center from 1969 until 1970 and from 1972 until 1974.

Dr. Harmon is practicing Pediatrics at 601 West Walnut in Rogers.

Dr. Arthur Edwin Squire, Jr.

Dr. Arthur E. Squire, Jr., is a new member of the Pulaski County Medical Society. He is a native of Poplar Bluff, Missouri.

Dr. Squire graduated from the University of Arkansas in 1964 with a B.A. degree and he received his M.D. degree in 1968 from the University of Arkansas School of Medicine. His internship was completed at Michael Reese Medical Center, Chicago, Illinois. Dr. Squire was a resident in Internal Medicine from 1971 until 1973 at Barnes Hospital in St. Louis, and his residency work in Pulmonary Medicine was at Barnes and Jewish Hospitals in St. Louis. He served as an instructor at the Washington University School of Medicine in St. Louis. Dr. Squire is Board Certified by the American Board of Internal Medicine.

He is now practicing Pulmonary Medicine at 10001 Lyle Drive, Little Rock, associated with the Little Rock Diagnostic Clinic.

Dr. Thomas Roland Koehler

The Pulaski County Medical Society has accepted Dr. Thomas R. Koehler for membership. He is a native of Searcy, Arkansas.

Dr. Koehler received his B.S. degree in 1970 from the University of Arkansas at Little Rock. He was graduated from the University of Arkansas School of Medicine in 1972. He interned at St. Vincent Infirmary in Little Rock.

Dr. Koehler is a resident in Psychiatry at the Arkansas State Hospital in Little Rock.

Dr. Gissur Jokull Petursson

Dr. Gissur J. Petursson is a new member of the Pulaski County Medical Society. He is a native of Iceland.

Dr. Petursson attended Akureyri Menntaskoli College, Akureyri, Iceland, and was graduated from the University of Iceland Medical School, Reykjavik, in 1960. He completed a two year general rotating internship in Iceland in 1962, and an internship at St. Vincent Infirmary in Little Rock in 1963.

He has completed residencies in Neurology and Ophthalmology at the University of Arkansas Medical Center in Little Rock. In 1967, he

completed a residency in Ophthalmology at the University of Missouri Medical Center in Columbia, Missouri.

Dr. Petursson is an Assistant Professor in the Department of Ophthalmology at the University of Arkansas Medical Center.

Dr. James Edgar Boger

The Pulaski County Medical Society has accepted Dr. James E. Boger, a native of Kansas City, Missouri, for membership.

He received his B.S. degree in 1966 from Arkansas Technical College in Russellville. He was graduated from the University of Arkansas School of Medicine in 1970. His internship and residency in Internal Medicine were completed at the University of Arkansas Medical Center in Little Rock. Dr. Boger was a Fellow in Cardiology at the Medical Center from 1973 until 1975.

Board Certified by the American Board of Internal Medicine, Dr. Boger is a member of the American College of Physicians, Arkansas Thoracic Society and American and Arkansas Heart Associations.

Dr. Boger is practicing Cardiology at 10001 Lyle Drive, Little Rock, associated with the Little Rock Diagnostic Clinic.

Dr. Joe D. King

The Howard-Pike County Medical Society has accepted Dr. Joe D. King for membership. He is a native of Texarkana, Arkansas.

Dr. King graduated from Ouachita Baptist University, Arkadelphia, Arkansas, in 1968 with a B.S. degree. He was graduated from the University of Arkansas School of Medicine in 1972 and completed his internship at St. Vincent Infirmary in Little Rock. He was also a resident in Family Practice at St. Vincent.

Dr. King is now in Family Practice at the Family Clinic of Nashville, P.A., Nashville, Arkansas.

Dr. Clarence Edward Gossett

The Craighead-Poinsett County Medical Society has added the name of Dr. Clarence E. Gossett to its membership roll. He is a native of Jonesboro, Arkansas.

Dr. Gossett received his B.A. degree in 1948 from the University of Arkansas. He was gradu-

ated from Vanderbilt University School of Medicine, Nashville, Tennessee, in 1951. His internship was taken at Vanderbilt University Hospital. He completed a residency in Aviation Medicine in 1962 at the school of Aviation Medicine, Pensacola, Florida. He was a resident in Otolaryngology from 1966 until 1970 at the Naval Hospital in San Diego, California.

Dr. Gossett, retired from the United States Navy with twenty years of service, is Board Certified in Aviation Medicine and is also Board Certified by the American Board of Otolaryngology. He is a Fellow, American Academy of Ophthalmology and Otolaryngology, and a Fellow, American Academy of Ophthalmologic and Otolaryngologic Allergy. He was Head, Otolaryngology Division, Naval Aerospace Medical Institute, Pensacola, Florida.

He is now practicing Otolaryngology at 505 East Matthews, Jonesboro, associated with Dr. William R. Eddington.

Dr. Samuel W. Peebles

The Howard-Pike County Medical Society has added the name of Dr. Samuel W. Peebles, a native of Nashville, to its membership roll.

Dr. Peebles graduated from Harding College, Searcy, Arkansas. He was graduated from the University of Arkansas School of Medicine in 1974, and completed his internship at the Baptist Medical Center in Little Rock.

He is now in General Practice at 120 West Syptert, Nashville, associated with Dr. John H. Wesson.

Dr. Robert S. Cohen

Dr. Robert S. Cohen is a new member of the Craighead-Poinsett County Medical Society. He is a native of Fredericktown, Missouri.

He received his B.A. degree in 1941 from Vanderbilt University, Nashville, Tennessee. He was graduated from the University of Arkansas School of Medicine in 1944. Dr. Cohen completed his internship at St. Mary's Hospital, Hoboken, New Jersey. He completed residencies at the University of Arkansas Medical Center and the Veterans Administration Hospital in Memphis, Tennessee.

Dr. Cohen has over twenty years of experience in private practice, and has held numerous teaching positions. He is Board Certified by the

NEW MEMBERS

American Board of Internal Medicine and the American Board of Internal Medicine and Hematology.

Dr. Cohen is practicing Internal Medicine and Hematology at 223 East Jackson, Jonesboro.

Dr. Robert Harold Fiser, Jr.

The Pulaski County Medical Society has accepted Dr. Robert H. Fiser, Jr., a native of Morrilton, Arkansas, for membership.

Dr. Fiser attended Hendrix College, Conway, Arkansas, and graduated from the University of Arkansas with a B.S.M. degree. He was graduated from the University of Arkansas School of Medicine in 1966 and interned at the University of Arkansas Medical Center in Little Rock. Dr. Fiser was a Pediatrics resident at the Medical Center and the William Beaumont Hospital in El Paso, Texas.

He is Board Certified by the American Board of Pediatrics and was an Assistant Professor of Pediatrics at the University of California School of Medicine, Los Angeles.

Dr. Fiser is an Associate Professor of Pediatrics at the University of Arkansas Medical Center.

Dr. Mark A. Strauss

Dr. Mark A. Strauss is a new member of the Pulaski County Medical Society. He is a native of Little Rock, Arkansas.

Dr. Strauss attended Tulane University and was graduated from the Tulane University School of Medicine, New Orleans, Louisiana, in 1972. He completed both his internship and residency in Internal Medicine at the Jewish Hospital of St. Louis, Missouri. He was an Assistant Professor of Medicine at Washington University School of Medicine in St. Louis.

Dr. Strauss is practicing Internal Medicine at 1026 Donaghey Building, Little Rock, associated with Dr. Alvin W. Strauss, Jr.

Dr. James Allan Wellons, Jr.

The Pulaski County Medical Society has accepted for membership Dr. James A. Wellons, Jr., a native of Philadelphia, Pennsylvania.

Dr. Wellons graduated in 1966 from the University of Arkansas with a B.A. degree. He was graduated from the University of Arkansas School of Medicine in 1970. Dr. Wellons completed his internship and a residency in Internal Medicine

at the University of Arkansas Medical Center. He was Staff Physician and Instructor, Department of Medicine, at the University of Arkansas Medical Center from 1974 until 1975.

Dr. Wellons is now practicing Internal Medicine at 10001 Lyle Drive, Little Rock, associated with the Little Rock Diagnostic Clinic.

Dr. Hunter M. Steadman, Jr.

Dr. Hunter Steadman, Jr., is a new member of the Washington County Medical Society. He is a native of Jackson, Tennessee.

Dr. Steadman attended North Texas State University, Denton, and was graduated from the University of Tennessee College of Medicine, Memphis, in 1968. His internship was completed at the City of Memphis Hospitals. Dr. Steadman completed residencies in ENT at Colorado General Hospital, Denver; Surgery at the same institution; and Family Practice at Mercy Hospital in Denver. He is a member of the American Academy of Family Practice.

Dr. Steadman is in Family Practice at 41 Kingshighway, Eureka Springs, associated with Dr. Robert A. Etherington, Dr. Lloyd S. Rolufs, and Dr. Fernando Pascual.

Dr. James F. Thomas

The Craighead-Poinsett County Medical Society has accepted Dr. James F. Thomas as a new member. He is a native of Jonesboro, Arkansas.

Dr. Thomas graduated from Hendrix College, Conway, Arkansas, with a B.A. degree in 1963. He was graduated from the University of Arkansas School of Medicine in 1968 and he completed his internship at Community Hospital, Love, New York.

Dr. Thomas is in Family Practice at Southgate Plaza, Jonesboro, associated with Dr. M. O. Peeler.

Dr. Alvah Jethrew Nelson, III

The Pulaski County Medical Society has added the name of Dr. Alvah J. Nelson, III, to its membership roll. He is a native of Atlanta, Georgia.

Dr. Nelson received his pre-medical education at Emory University in Atlanta. He was graduated from the Emory University School of Medicine in Atlanta in 1958. His internship was completed at Wilford Hall United States Air Force Hospital, Lackland Air Force Base, Texas. Dr.

Nelson completed a residency in Radiology at the Emory University School of Medicine and a residency in Radiotherapy at the University of Texas M. D. Anderson Hospital and Tumor Institute, Houston.

Dr. Nelson is Board Certified by the American Board of Radiology and was Staff Radiologist at the County Hospital in LaGrange, Georgia, for five years. He was an Assistant Professor of Radiotherapy at the M. D. Anderson Hospital and Tumor Clinic. His professional memberships include the American Society of Therapeutic Radiologists, American College of Radiology, and the American Radium Society.

Dr. Nelson is practicing Radiotherapy at 500 South University with Radiology Associates, P.A., in Little Rock.

Dr. Robert H. McCollum

The Washington County Medical Society has accepted Dr. Robert H. McCollum for membership. Dr. McCollum is a native of Little Rock, Arkansas.

He received his B.S. degree in 1958 from Arkansas State Teachers College in Conway, and was graduated from the University of Arkansas School of Medicine in 1962.

Dr. McCollum's medical practice is located at 102 West Dickson in Fayetteville.

Dr. George Harrison Butler

Dr. George H. Butler is a new member of the Washington County Medical Society. He is a native of Liberty, Mississippi.

Dr. Butler graduated from the University of Arkansas with a B.S. degree in 1964. He was graduated from the Tulane University School of Medicine, New Orleans, Louisiana, in 1969. He completed both his internship and residency in Cardiology at the Ochsner Foundation Hospitals in New Orleans.

Dr. Butler is now practicing Cardiology at 675 Lollar Lane, Fayetteville.

Dr. Fernando Jordan Pascual

The Washington County Medical Society has added the name of Dr. Fernando Pascual to its membership roll. He is a native of Manila, Philippines.

Dr. Pascual graduated from the University of the Philippines in 1950. He was graduated from the College of Medicine, University of the Philippines in Manila, in 1955. He interned at the Philippine General Hospital and at Mercy Hospital, Cedar Rapids, Iowa. Dr. Pascual received his residency training in General Practice at St. Michael's Hospital in Texarkana, and West Chester County Hospital in West Chester, Pennsylvania. His training in General Surgery was at Reading Hospital, Reading, Pennsylvania.

Dr. Pascual has been in private practice for ten years and has served as a Public Health Officer for one year. He is a member of the American Academy of Family Physicians.

Dr. Pascual is in General Practice at 41 Kingshighway, Eureka Springs, associated with Dr. Robert Etherington, Dr. Lloyd Rolufs, and Dr. Hunter Steadman.

Dr. Karl Dan Moser

The Miller County Medical Society has accepted Dr. Dan Moser for membership. He is a native of Stephenville, Texas.

Dr. Moser is a 1965 graduate of the University of Texas at Austin, receiving a B.A. degree. He was graduated from the University of Texas Southwestern Medical School, Dallas, in 1969. His internship and residency work in Pathology were completed at the University of Arkansas Medical Center. He is Board Certified by the American Board of Pathology, and is a member of the American College of Pathology.

Dr. Moser is practicing Anatomical and Clinical Pathology at St. Michael's Hospital in Texarkana, Arkansas.

Dr. Rex Daniel Russell

The Sebastian County Medical Society has added the name of Dr. Rex D. Russell, a native of Altus, Oklahoma, to its membership roll.

Dr. Russell graduated in 1963 from Oklahoma State University in Stillwater, Oklahoma, with a B.S. degree. Following his 1967 graduation from the Baylor College of Medicine, Houston, Texas, he interned at the University of Kentucky Hospitals in Lexington. He completed a residency in Diagnostic Radiology at the Mayo Clinic, Rochester, Minnesota. Board Certified by the American Board of Radiology, Dr. Russell was

a Clinical Instructor in Radiology at the Baylor College of Medicine from 1971 until 1974. He was also a Clinical Assistant Professor in Radiology at Baylor College of Medicine .

Dr. Russell is practicing Radiology, associated with the Holt-Krock Clinic, 1500 Dodson Avenue, Fort Smith.

Dr. Kenneth A. Seifert

The Garland County Medical Society has accepted Dr. Kenneth A. Seifert for membership. He is a native of Madison, Wisconsin.

Dr. Seifert graduated from the University of

Wisconsin, Madison, with a B.S. degree in 1933. He was graduated from the University of Wisconsin Medical School in Madison in 1935. Dr. Seifert's internship was taken at Kings County Hospital, Brooklyn, New York, and he completed a Surgery residency at the Lutheran Hospital, LaCrosse, Wisconsin. In addition to having over twenty-five years of private practice, Dr. Seifert was an Instructor of Surgery at Marquette University from 1945 until 1955. He is Board Certified by the American Board of Surgery.

Dr. Seifer is practicing General Medicine and Surgery at Hot Springs Village, Arkansas.



October, 1975

THE JOURNAL OF THE

Arkansas MEDICAL SOCIETY

Vol. 72 No. 5

FORT SMITH, ARKANSAS

ARKANSAS MEDICAL SOCIETY
CENTENNIAL YEAR

BECOTIN®
Vitamin B Complex

BECOTIN® with VITAMIN C
Vitamin B Complex with Vitamin C

BECOTIN®-T
Vitamin B Complex with Vitamin C, Therapeutic

MI-CEBRIN®
Vitamins-Minerals

MI-CEBRIN T®
Vitamin-Minerals Therapeutic

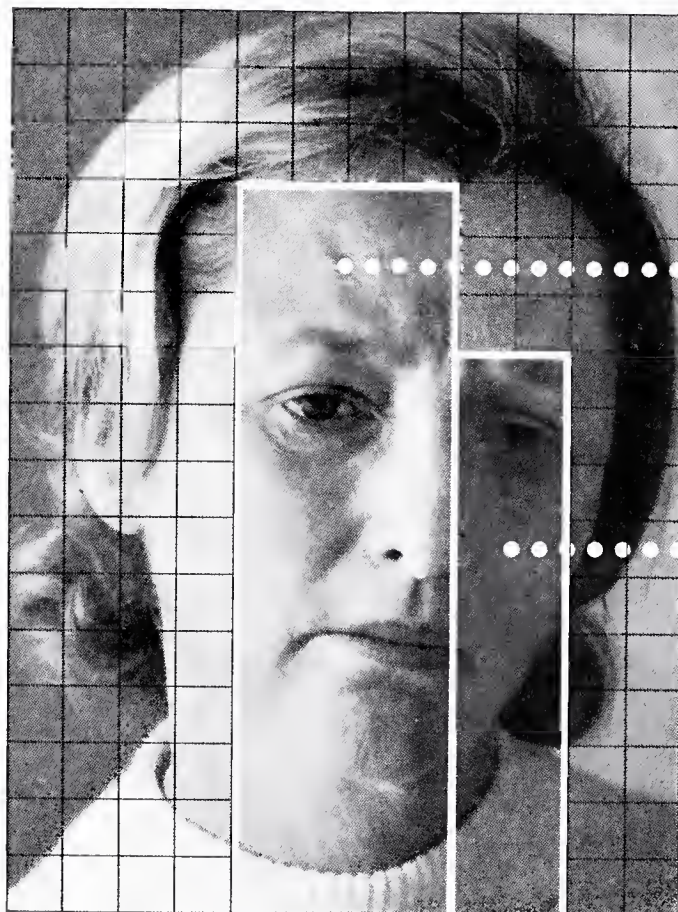
AND A WIDE VARIETY OF OTHER PHARMACEUTICALS



DISTA PRODUCTS COMPANY
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

LIBRARY
U.C. SAN FRANCISCO
OCT 30 1975

Both often



Predominant
psychoneurotic
anxiety

Associated
depressive
symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent

in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium[®] (diazepam) 2-mg, 5-mg, 10-mg tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

THE
JOURNAL OF THE
Arkansas

MEDICAL SOCIETY

Owned by
THE ARKANSAS MEDICAL SOCIETY
And Published Under Direction of the Council

ALFRED KAHN, JR., M.D., Editor
1300 West Sixth Street Little Rock, Arkansas
MR. PAUL C. SCHAEFER, Business Manager
214 North 12th Street Fort Smith, Arkansas
LITTLE ROCK BUSINESS OFFICE
114 E. Second St. Little Rock, Arkansas

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY

T. E. TOWNSEND, President	Pine Bluff
A. S. KOENIG, JR., President-Elect	Fort Smith
ASA A. CROW, First Vice President	Paragould
MAHLON O. MARIS, Second Vice President	Harrison
DONALD L. DUNCAN, Third Vice President	Texarkana
ELVIN SHUFFIELD, Secretary	Little Rock
KENNETH R. DUZAN, Treasurer	El Dorado
AMAIL CHUDY, Speaker,	
House of Delegates	North Little Rock
CHARLES F. WILKINS, JR., Vice Speaker,	
House of Delegates	Russellville
ALFRED KAHN, JR., Journal Editor	Little Rock
C. C. LONG, Delegate to AMA	Fort Smith
PURCELL SMITH, Delegate to AMA	Little Rock
JOE VERSER, Alternate Delegate to AMA	Harrisburg
T. E. TOWNSEND, Alternate Delegate to AMA	Pine Bluff
MR. PAUL C. SCHAEFER, Executive Vice President,	
P. O. Box 1208	Fort Smith

COUNCILORS

First District	JOHN B. KIRKLEY	Jonesboro
	*ELDON FAIRLEY	Osceola
Second District	JOHN E. BELL	Searcy
	*PAUL GRAY	Batesville
Third District	*L. J. P. BELL	Helena
	FRED C. INMAN, JR.	Carlisle
Fourth District	JOHN P. BURGE	Lake Village
	*RAYMOND IRWIN	Pine Bluff
Fifth District	*J. B. JAMESON, JR.	Camden
	JOHN H. MOORE	El Dorado
Sixth District	*C. LYNN HARRIS	Hope
	A. E. ANDREWS	Texarkana
Seventh District	*ROBERT F. McCRARY	Hot Springs
	CURTIS CLARK	Sheridan
Eighth District	WILLIAM S. ORR, JR.	Little Rock
	*W. PAYTON KOLB	Little Rock
Ninth District	*HENRY V. KIRBY	Harrison
	MORRIS M. HENRY	Fayetteville
Tenth District	KEMAL KUTAIT	Fort Smith
	*C. C. LONG	Fort Smith

*Senior Councilor

The Advertising policy of this JOURNAL is governed by the PRINCIPLES OF ADVERTISING of the State Medical Journal Advertising Bureau, Inc., by the Advertising Committee of the Bureau and by the Council of the Arkansas Medical Society.

EXCLUSIVE PUBLICATION—Articles are accepted for publication on the condition that they are contributed solely to this JOURNAL.

COPYRIGHT 1975—By the JOURNAL of the Arkansas Medical Society.

NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

SCIENTIFIC ARTICLES

Dietary Management of the
Child With Diabetes 197
Sarah Parish, R.D., M.P.H.,
M. Joycelyn Elders, M.D.
Leiomyoma of the
Female Urethra 203
Douglas B. Smith, M.D.,
Frederick W. Feder, M.D.,
J. F. Kelsey, M.D.,
Homer G. Ellis, M.D.
History of the Arkansas Chapter
of American College of
Surgeons Charter No. 51 205
Martin C. Hawkins, Jr., M.D., FACS

FEATURES

Office Orthopaedics: Pulled Elbow.. 209
R. Barry Sorrells, M.D.
EKG of the Month: 212
Robert T. Bulloch, M.D.
Arkansas Public Health at a Glance,
“Arkansas Alliance for
Eradication of Venereal Disease” .. 213
Miss Carol A. Hopkins,
PH Education Supervisor
Editorial: “Surgery, Gynecology, and
Obstetric’s ‘What’s New’ ” 214
Alfred Kahn, Jr., M.D.
Resolutions 215
Medicine in the News 216
Minutes, Board of Directors,
Arkansas Foundation for
Medical Care 220
Things to Come 222
Obituary 222
Personal and News Items 223
Proceedings of Societies 224
Minutes of the Council of the
Arkansas Medical Society 224
New Members 225

Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72901. Published monthly under direction of the Council, Arkansas Medical Society, Volume 72, No. 5. Subscription \$2.00 a year. Single copies 50 cents. Entered as second class matter, May 1, 1955, in the post office at Little Rock, Arkansas, under the Act of Congress of March, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 1, 1918. Second-class postage paid at Little Rock, Arkansas.

Dietary Management of the Child with Diabetes

Sarah Parish, R.D., M.P.H.*, and M. Joycelyn Elders, M.D.**

A 3-year-old female from an upper income home with attractive well-educated parents; a 13-year-old female from a low income family with no father present in the home who gets shifted from one household to another; a 6-year-old child who ate Royal Ann Cherries every morning with breakfast for one year; and a 4-year-old female whose father had lost his job in a reduction of staff, whose mother asked if the child will be able to have boy friends and marry like other girls. What do these children have in common? They were all diagnosed as having juvenile diabetes mellitus. Presenting complaint was weight loss.

When a child is initially diagnosed as having diabetes at UAMC, he is hospitalized to regulate insulin and diet and, as importantly, hospitalized to educate the patient and family to manage the disease. Before planning a diet for an individual child, a food history is taken. A food history includes how often food is usually eaten, what types of food are eaten, and any strong food preferences, allergies or food dislikes. Also is week-end eating different from week days? Who does the food purchasing, what are the food preparation and storage facilities and what are limitations such as economic, education, or culture value?

The physician usually orders the calorie level and how it should be distributed in the day but some physicians are asking registered dietitians to participate in decisions on the diet prescription.

At UAMC a diet is planned which approximates that of the average child and conforms to the family's dietary pattern. It is important that the food habits of the child's family and school-mates be considered in planning the diet.

The "Average" American diet is comprised of 15 to 20% protein, 35 to 40% fat and 40 to 50% carbohydrate.

The recommendations of the American Diabetes Association Food and Nutrition Committee in 1971 stated four principles in dietary management.

1. Total calories—overweight diabetics should be provided a nutritionally adequate diet restricted in calories. Young underweight diabetics should be provided a calorically adequate diet to achieve desirable weight and normal growth and development.
2. Regular meals—Patients on insulin require regular spacing of food to avert intermittent hypoglycemia. Avoid the ingestion of concentrated simple sugars to avoid associated hyperglycemia peaks.
3. Carbohydrate and Fat Content—There is no longer any reason to disproportionately restrict the intake of carbohydrates in the diet of most diabetics. An increase of dietary carbohydrate without a caloric increase does not appear to increase insulin requirement in the insulin treated diabetic patient. With an increase in carbohydrate calories, there would be a corresponding decrease in fat calories. The patient and family should be taught to continue to avoid ingestion of concentrated simple carbohydrates or sugar.
4. Individualization of treatment for specific patients with specific metabolic abnormalities associated with the diabetic state is essential. A dietary recommendation on restriction of cholesterol and saturated fats should be based on prior testing for hyperlipidemia.

Since most children with diabetes are underweight, total calories may be determined by one of several methods. One way is to prescribe 1000 calories for the first year of age and 100 calories added for each additional year of age up to 2200 calories for girls and 2800 calories for boys. Another method of calculating calories is 35 to

*Nutrition Coordinator, Arkansas Children and Youth Project. Address: 8849 Old Kings Road South, Apt. 10E, Jacksonville, Florida 32217.

**Associate Professor, U.A.M.C., Professional Advisory Committee of American Diabetes Association—Arkansas Affiliate. Department of Pediatrics, University of Arkansas Medical Center, Little Rock, Arkansas.

Mailing Address: M. J. Elders, M.D., 4301 West Markham Street, Little Rock, Arkansas 72201.

Studies at the University of Arkansas Medical Center were supported by USPHS grant AM 15901 and CA 13907.

40 calories per pound of desired body weight. Protein intake should be 1.5 grams per pound of body weight for a child under 3 years and 1 gram per pound for older children. Food should be distributed in 3 meals with at least 2 supplemental feedings, mid-afternoon and bed times, to conform to the peak action time of the insulin and to avoid nighttime hypoglycemia. Perhaps distribution of food should be referred to as "food spacing" rather than meals and snacks.

Follow-up-visits:

The initial diet should be adjusted on the basis of appetite and growth response.

1. Satisfied appetite and normal growth = diet as planned.
2. Increased appetite and normal growth = Increase bulk (more list 3 fruits, 2A vegetables, free foods and reduce fats, list 6, to maintain calorie level).
3. Satisfied appetite and poor growth = increase calories (more meat list 5, bread list 4 or milk list 1 substituted for some of the bulky foods list 2A vegetables and list 4 fruits).
4. Unsatisfied appetite and poor growth = increase calories in diet particularly protein calories (meat list 5 and milk list 1).

For female children with diabetes one of the more common errors in diet is the failure to adjust calories downward following completion of adolescent growth resulting in an over-weight teenager.

Dietary education for a child with newly diagnosed diabetes mellitus begins with the rationale for the diet.

1. The nature of the disease (inability of the body to produce enough insulin).
2. How insulin works in the body (helps us use

the food we eat, and in particular carbohydrates).

3. What determines the amount of food or calories we need (growth and activity).

The food to include in the diet is taught with the use of food exchange or choice lists. (See chart below).

MILK EXCHANGES, LIST 1

One Milk Exchange contains: Carbohydrate 12 grams, protein 8 grams, fat 10 grams; 170 calories. Milk is one of our most important foods. This list shows the different types of milk to use for one exchange.

	<i>Amount to Use:</i>
Whole milk (plain or homogenized)	1 C (½ pint or 8 oz.)
Skim milk*	1 C
Evaporated milk	½ C
Powdered skim milk* (non-fat dry milk)	⅓ C of instant type or ¼ C of regular type (read directions on box)
Buttermilk, Bulgarian (made from whole milk)	1 C
Buttermilk*, cultured or churned (made from skim milk)	1 C
Cocoa or chocolate milk (using 1 C milk, 2 tsp. cocoa, artificial sweetener) —no more than once daily.	1 C

One type of milk may be used instead of another. For example, ½ cup evaporated milk in place of 1 cup of whole milk.

*When skim milk or buttermilk made from skim milk is used in place of whole milk, add two fat exchanges to the meal to get the same food value.

VEGETABLE EXCHANGES, LIST 2

All vegetables contain carbohydrate but some have more than others. The vegetables have been divided into three groups according to the amount of their carbohydrate content.

Vegetables which have a large amount of carbohydrate are included in Bread Exchange, List 4.

VEGETABLE EXCHANGES, LIST 2A

Contain little carbohydrate, protein or calories. In raw

COMPOSITION OF FOOD EXCHANGE (CHOICES) LISTS*

LIST	FOOD EXCHANGES (CHOICES)	MEASURES	Gm	C	P	F	Cal
1	Milk Exchanges	½ pint	240	12	8	10	170
2A	Vegetable Exchanges	As desired	—	—	—	—	—
2B	Vegetable Exchanges	½ cup	100	7	2	—	36
3	Fruit Exchanges	Varies	—	10	—	—	40
4	Bread Exchanges	Varies	—	15	2	—	68
5	Meat Exchanges	1 ounce	30	—	7	5	73
6	Fat Exchanges	1 teaspoon	5	—	—	5	45

*Meal Planning with Exchange Lists. Prepared by Joint Committee of the American Diabetic Association, Inc., and National Center for Chronic Disease Control, Public Health Service, Department of Health, Education, and Welfare.

form, the following list of vegetables may be eaten as desired in ordinary amounts. If they are cooked, no more than 1 cup at a time may be used.

Asparagus	Poke
Broccoli*	Spinach
Brussels sprouts	Turnip greens
Cabbage	Lettuce
Cauliflower	Mushrooms
Celery	Okra
Cucumbers	Onions, green, young
Eggplant	Radishes
Endive*	Rhubarb
Escarole*	Romine
Green beans, young	Sauerkraut
Green pepper	Squash; summer
(or red)*	(yellow*, zucchini, white)
Greens*	Tomato Juice* and
Beet Greens	Tomatoes*
Chard	(Limit to 1/2 cup or 1
Collards	tomato per meal).
Dandelion	Watercress*
Kale	
Mustard	

VEGETABLE EXCHANGES, LIST 2B

One Vegetable Exchange contains: Carbohydrate 7 grams, protein 2 grams; 36 calories. One-half cup of vegetables equal one exchange. Use these vegetables raw or cooked:

Artichoke, 1 medium	Peas, green
Beets	Pumpkin*
Carrots*	Rutabagas
Green beans, mature	Squash: Winter (acorn,
Mixed vegetables, frozen	butternut, hubbard)
Onions, dry	Turnips

Any of the following may be substituted for 1 Vegetable Exchange B: 1 cup of Vegetable Exchange, List 2A cooked, 2 cups of Vegetable Exchange, List 2A raw, 1/2 Bread Exchange, List 4 or 1 Fruit Exchange, List 3.

*High in vitamin A—include at least 1 serving every other day of one of these.

FRUIT EXCHANGES, LIST 3

One Fruit Exchange contains: Carbohydrate 10 grams; 40 calories. Use fresh, dried, cooked, unsweetened frozen, unsweetened canned or home canned using a sugar substitute. A serving of canned fruit is considered as the solid portion with its share of liquid from the can.

Apple, 2" diam.	1 small
Applesauce	1/2 cup
Applejuice	1/3 cup
Apricots, fresh	2 medium
Apricot, dried or canned	4 halves
Banana	1/2 small
Berries: Strawberries*, Raspberries,	
Blackberries	1 cup
Blueberries	2/3 cup
Cantaloupe*, 6" diam.	1/4
Cherries	10 large
Dates	2
Figs, fresh, dried or canned	2 large
Gooseberries	1/2 cup
Grapefruit*	1/2 small
Grapefruit juice*	1/2 cup

Grapes	12
Grape juice	1/4 cup
Honeydew melon*, 7" diam.	1/8
Orange*	1 small
Orange Juice*	1/2 cup
Peach, canned	1 medium
Pear, canned	1 small
Pineapple	1/2 cup or 2 slices
Pineapple juice	1/3 cup
Plums	2 medium
Prune juice	1/4 cup
Prunes, dried	2 medium
Raisins	2 tablespoons
Tangerine*	1 large
Watermelon	1 cup

*High in vitamin C—include 1 serving daily of one of these.

BREAD EXCHANGES, LIST 4

One Bread Exchange contains: Carbohydrate 15 grams, protein 2 grams, 68 calories. Measure all the foods on this list after they have been cooked.

Amount to Use:

Bread (all kinds except raisin bread and	
gluten bread)	1 slice
Biscuit, roll, 2" diam.	1
Melba toast, round	8
Melba toast, oblong	4
Muffin, 2" diam.	1
Cornbread, 1 1/2" cube	1
3"x1 1/2"x3/4	1
Hot dog or hamburger bun	1/2 bun
Pancake, 5" diam.; omit 1 Fat Exchange	1
Waffle, 5 1/2" diam.; omit 1 Fat Exchange	1/2
Cereals, cooked	1/2 cup
Dry, flake and puff types (plain	
unsweetened)	3/4 cup
Shredded wheat	2/3 biscuit
Rice, Grits, cooked	1/2 cup
Spaghetti macaroni, noodles, cooked	1/2 cup
Crackers, graham, 2 1/2" square	2
Oyster crackers, 1/2 cup	20
Rye-Krisp, double square wafer	3
Saltines, 2" square	5
Soda, 2 1/2" square	3
Round, thin, 1 1/2" diam.	6-8
Wheat thins	12
Flour	2 1/2 Tbsp.
Cornstarch	2 Tbsp.
Vegetables	
Beans, cooked, fresh, frozen, canned, dried	1/2 cup
Baked beans, no pork	1/4 cup
Corn	1/3 cup
Corn on cob, 4" long	1 ear
Hominy	1/2 cup
Parsnips	2/3 cup
Peas: cooked, fresh, frozen, canned, dried	1/2 cup
Popcorn, plain popped	1 1/2 cups
Potato chips, large, 3" diam.; omit 2 Fat	
Exchanges	10
Potatoes*, white 2" diam.	1
Potatoes*, white, mashed	1/2 cup
Potatoes*, sweet or yams	1/4 cup

Sponge cake, plain 1" cube	1
Ice cream, omit 2 Fat Exchanges	½ cup
*Instant potatoes and dried potato forms may be used as well as the fresh.	

MEAT EXCHANGES, LIST 5

One Meat Exchange contains: Protein 7 grams, fat 5 grams; 73 calories. Meat should be measured after it is cooked. One fourth of a pound (4 oz.) of raw meat without bones and fat usually weighs 3 ounces after cooking.

Amount to Use:

Meat and poultry, medium fat	1 oz.
(beef, veal, lamb, pork, liver, game, chicken, etc.)	
Cold cuts, 4½" square—⅛" thick	
All meat type (Salami, minced ham, bologna, liverwurst, luncheon loaf)	1 slice
Frankfurter, (8-9 per lb.), All meat type	1
Sausage, 3"x½", omit 2 Fat Exchanges	2 links
Sausage, 2" diam.; omit 2 Fat Exchanges	1 patty
Fish:	
Catfish, perch, bass, trout, etc.	1 oz.
Salmon, tuna, crab, lobster, mackerel—fresh, frozen or canned (with or without oil)	¼ cup
Shrimp, clams, oysters, etc.	5 small
Sardines	3 medium
Cheese:	
Cheddar or American	1 oz.
Cottage cheese, creamed	¼ cup
Egg	1
Peanut Butter*	2 Tbsp.

*Limit peanut butter to 1 exchange per day or adjust carbohydrate (deduct 5 gm. carbohydrate per exchange when used in excess of 1 exchange).

FAT EXCHANGES, LIST 6

One Fat Exchange contains: Fat 5 grams; 45 calories. The Fat Exchange may be used in cooking.

Amount to Use:

Butter or margarine	1 tsp.
Bacon, crisp or thin crisp salt pork	1 slice
Coconut, grated	2½ Tbsp.
Cream: light 20%	2 Tbsp.
heavy, 40% (whipped cream)	1 Tbsp.
Avocado, 4" diam.	⅛
French dressing	1 Tbsp.
Mayonnaise	1 tsp.
Oil or cooking fat, as bacon grease	1 tsp.
Nuts	6 small
Olives	5 small
Sour cream	2 Tbsp.
Half-and-half	¼ cup
(no more than once a day)	

FOODS ALLOWED FREE OR AS DESIRED

Coffee	Cranberries, fresh
Tea	Pickles, unsweetened, sour
Broth or Bouillon	Pickles, unsweetened, dill
(no fat)	Lemonade and pre-packaged
Fizzes	soft drink mixes sweet-
D-Zerta	ened with artificial
Gelatin, unsweetened	sweetener (limit pre-
Rennet Tablets	packaged soft drink mixes
Rhubarb, fresh or	to 2 glasses daily)
Unsweetened frozen	

Common foods in household measures are grouped into 6 lists according to the calories and nutritive value. The child's diet is selected from the foods he wants to eat at each meal from the 6 exchange lists. One portion of a food in a list may be exchanged for another portion on the same list as the diet pattern allows. Foods from one list may not be exchanged for foods from another list as the foods would not contribute the same nutritive value and calories. Measuring cups and spoons and food models in correct portion size are used to explain the exchange lists. Paper food models available free from Eli Lilly can be used. Copies of exchange lists are available free from the Nutrition Service, Arkansas State Department of Health, Little Rock.

Children and parents are cautioned against dietary excesses, specifically the "sweets" and food stuffs of high carbohydrate contents to avoid hyperglycemia (and hypertriglycedemia).

The diet strives to keep the amount of carbohydrate, protein, and fat at a constant level at regular prescribed intervals according to the type of insulin used and family food pattern. There is carbohydrate in the milk, bread, fruit, and 2B vegetables lists. Protein is calculated from meat, milk, bread, and 2B vegetables. Fat calories are calculated from the milk, meat, and fat lists.

The child needs to eat approximately the same amount of carbohydrate, protein, and fat at regular times of the day, each day. If he usually eats 2 slices of bread, ¾ cup dry cereal and 1 cup milk at breakfast, the amount of carbohydrate, protein, and fat in these foods is calculated and this same amount should be eaten again the next morning for breakfast. The three bread exchanges, list 4, could be served as 1 slice of bread and 1½ cups of dry cereal plus 1 cup of milk, or 3 slices of bread, no cereal, and 1 cup milk.

The little girl that ate Royal Anne Cherries with breakfast each day could have had more variety and exchanged her fruit for ½ cup orange juice or ½ grapefruit or ½ cup apple-sauce, etc., (see fruit exchange list 3) and her breakfast would not have been so monotonous.

There is much confusion from advertising about the use of the words diet food, dietetic food, and diabetic foods. We prefer the family use easily available regular foods. "Diet food" can mean anything from water added to margarine to cut calories to no sugar in bread which still has carbohydrate calories from flour. Diabetic food usually has less carbohydrate than

would normally be expected but not necessarily fewer calories. Dietetic food could be low in sodium, carbohydrate, cholesterol, protein, or almost any nutrient. Reading labels, the small print, can be a confusing and time consuming task. The only exception that we recommend is the use of water packed or artificially sweetened fruit to include more variety in the fruit exchange list particularly when fresh fruit is unavailable.

The child is encouraged to eat a variety within each food group. Usually all foods can be worked into the pattern as long as the composition of the food is known. An expanded list of foods is given the family detailing how to make substitutions using the food exchange lists. Holidays and parties sometimes call for a concentrated sweet. An occasional quantitative deviation is of no great consequence.

DIABETIC DIET EXCHANGES

Primarily for Children

MEAT EXCHANGES	EXCHANGE
Spare Ribs roasted, 3 med.	1 meat & 1 fat
Canadian Bacon, 1 slice $2\frac{1}{4} \times \frac{3}{16}$	1 meat
Brains, 2 oz.	1 meat
Chittutings, 1 piece $2\frac{1}{2}$ " sq.	1 meat
FAT EXCHANGES	
Tartar Sauce, 1 tablespoon	2 fat
BREAD EXCHANGES	BREAD EXCHANGES
CANDY & SWEETS	
Hershey's Milk Choc. Kisses, 7	1 & 2 fat
Hershey's Mr. Good Bar (5 oz.), 1	1 & 3 fat
Jelly Beans, 10	1
Hershey's Krackel 5¢ bar, 1	1 & 2 fat
Hershey's Milk Choc. with almonds ($1\frac{1}{4}$ oz.)	1 bread, 1 fruit, 1 fat
Gum drops, 2 large $\frac{7}{8}$ " diam. or 16 small	1 bread
BREAD EXCHANGES FOR DIABETIC	BREAD EXCHANGES
Waffle, $4\frac{1}{4}$ " diam.	1 & 2 fat
Pancake, 5" diam.	1 & 1 fat
Tomato Catsup, 4 tablespoons	1
Potato Chips, (15 pieces 2" diam.) or 1 oz. package	1 & 2 fat
Bread Filling (stuffing) $\frac{1}{4}$ c. (fat used)	1 & 1 fat
Marshmallows, 3	1
Tortilla, 6" diam.	1
Vanilla Wafers, 6	1
Cornmeal, 2 tablespoons	1
Cornstarch, 2 tablespoons	1
Jello plain (serving 5 to package)	1
Pretzels, 20 sticks or 6 medium twists	1
Pizza, $\frac{1}{8}$ of 14"	1 bread exchange + 1 fruit exchange + 1 meat exchange

Pizza, $\frac{1}{4}$ of 10"	1 bread exchange + 1 fruit exchange + 1 meat exchange
Pizza, $3\frac{1}{2}$ " sq. or 3"x4" rectangle	1 bread & 1 meat
Hamburger Bun small, 16/pound	1 bread
Sherbet, $\frac{1}{4}$ cup	1 bread
Boston Brown bread, 3" diam. $\frac{1}{2}$ "	1
Rye Krisp, 3 double sq. wafers	1
Doughnut, Raised (yeast)	1 & 1 fat
Doughnut, Cake type (plain, not sugared or iced)	1 & 1 fat
Tapioca, minute, $\frac{1}{2}$ cup serving	1 & 1 fat
Popped corn, $1\frac{1}{2}$ cups	1
Animal crackers barnum's, 10	1
Cheese tid-bits, 24	1
Ginger snaps, 5 small	1
Pie crust shell, $\frac{1}{6}$ of 9" shell	1 & 1 fat
Sugar cookie, 4" diam.	1 & 1 fat
Oatmeal cookie, $3\frac{1}{2}$ " diam.	1 & 1 fat

SOUPS— $\frac{1}{3}$ CAN	BREAD EXCHANGES
Chicken Rice, Campbell's	$\frac{1}{2}$ + 1 fat
Beef Noodle	$\frac{1}{2}$ + 1 fat
Chicken Noodle, Heinz	$\frac{1}{2}$ + 1 fat
Beef with Vegetables, Heinz	$\frac{1}{2}$ + 1 fat
Chicken Gumbo, Campbell's	$\frac{1}{2}$ + 1 fat
Chicken Noodle, Campbell's	$\frac{1}{2}$ + 1 fat
Clam Chowder	$\frac{1}{2}$ + 2 fat
Gumbo Creole, Heinz	$\frac{1}{2}$ + 2 fat
Beef Noodle, Heinz	$\frac{1}{2}$ + 2 fat
Pepper Pot, Campbell's	$\frac{3}{4}$ + 1 fat
Cream of Chicken, Campbell's	$\frac{3}{4}$ + 1 fat
Green Pea, Cream, Heinz	$\frac{3}{4}$ + 2 fat
Vegetarian Vegetable, Campbell's	$\frac{3}{4}$ + 2 fat
Clam Chowder, Heinz	$\frac{3}{4}$ + 2 fat
Vegetable, Campbell's	1 + 2 fat
Beef	1 + 1 fat
Cream of Celery, Campbell's	1 + 2 fat
Mushroom, Cream, Campbell's	1 + 2 fat
Scotch Broth, Campbell's	1 + 2 fat
Cream of Chicken, Heinz	1 + 2 fat
Vegetable, Beef, Campbell's	1 + 2 fat
Vegetable, No Meat, Heinz	1 + 3 fat
Green Pea, Campbell's	1
Asparagus, Cream of, Campbell's	1 + 1 fat
Vegetable, Beef, Heinz	1
Mushroom, Cream, Heinz	1 + 2 fat
Tomato, Cream of, Heinz	$1\frac{1}{2}$ + 1 fat
Tomato, Campbell's	$1\frac{1}{2}$ + 1 fat

BEVERAGES	BREAD EXCHANGES
Coca Cola, 4 oz.	1
Coca Cola, 6 oz.	$1\frac{1}{2}$
Gingerale, 6 oz.	1
Pepsi-Cola, $4\frac{1}{2}$ oz.	1
Snow Cone, small	1
Popsicle, twin bar	1
Tang Breakfast Drink, $\frac{1}{3}$ cup	1 fruit exchange
Reconstituted Lemon or Limeade, $\frac{1}{3}$ cup	1 fruit exchange
Cider, Sweet, $\frac{1}{3}$ cup	1 fruit exchange
MISCELLANEOUS	
Bean Sprouts	A vegetable

Sweet Pickle (Gherkin 1 medium), if 2 are used count	A vegetable
Ice Cream Cone	B vegetable
Carnation Instant Breakfast	1 fruit
1 envelope with 8 oz. fl. whole milk	1 skim milk exchange
	1 meat exchange
	1½ bread exchange
	1 fat exchange

Physical activity and its relation to food intake is an important aspect of diabetic management. Regular exercise is encouraged. The child may need to eat a larger portion of food containing protein in the meal that immediately precedes an active sport as football or swimming (proteins sustain the blood sugar level longer than carbohydrates) and/or the child could have an extra serving of carbohydrate food during or following strenuous exercise. Children and parents quickly learn how to make adjustments to avoid insulin reactions. If the child needs to use sugar for insulin reactions more than 2 or 3 times a month, some correction in the diet or insulin should be made.

The problem of being different worries children more than it worries most adults. Wanting to be like other children is a natural part of every child's development. One way to help a child with this concern is to point out that he is different no more than 8 minutes a day, 4 minutes for urine checks and the 4 minutes it takes to give insulin. The other things we stress to him, well balanced meals, regular exercise, and protection from infection, are a part of every wise person's way of life.

Since the diet is made up of ordinary foods and the diet is nutritionally sound, we ask that the

whole family participate in the diet—not to the extent that food be measured but that they eat the same kind of food the child eats.

Conservation of health is the prime objective in the care of all patients, but for children this must be done in a way that permits their normal development, enabling them to become adults who are capable of meeting life's responsibilities.

REFERENCES

1. Fields, R. A., et al. Juvenile Diabetes Clinical Pediatrics 4:160-73, March, 1965.
2. Jackson, Robert L. Nutritional Management of Children with Diabetes Mellitus. Council, SAMA Vol. 168. Sept. 6, 1958, reprinted 7/68.
3. Knowles, H. C., Jr., et al. The course of juvenile diabetes treated with unmeasured diet. Diabetes 14:239-73, May 1965.
4. Moore, Mary Lou. Diabetes in children. Amer. J. of Nursing, Vol. 67 p. 104-107, June, 1967.
5. O'Brien, O. Childhood diabetes: A contemporary re-evaluation. Clinical Pediatrics, Vol. 521, 1966.
6. Nelson, Waldo E. Textbook of Pediatrics. 9th edition. W. B. Saunders Company, Philadelphia 1969, p. 1155-1163.
7. Special Report, Principles of Nutrition and Dietary Recommendations for Patients with Diabetes Mellitus: 1971, Diabetes, Vol. 20, No. 9, p. 633.
8. Wood, Francis, Jr., and Bierman, Edwin L. New Concepts in Diabetic Dietetics. Nutrition Today, May/June, 1972.
9. Jackson, Robert L. "The Child with Diabetes". Nutrition Today, March/April 1971.
10. Commonsense and Diabetes—An interview with Frank F. Davidoff, M.D. Medical Opinion, June, 1974.
11. Albrink, Margaret J., and Davidson, Paul C. Dietary Therapy and Prophylaxis of Vascular Disease in Diabetics. Medical Clinics of N. Am., Vol. 55, No. 4, July, 1971, p. 877.
12. Arkansas Diet Manual, Arkansas State Department of Health, Little Rock, Ark. 4th Edition, 1973.



Leiomyoma of the Female Urethra

Report of Two Cases

Douglas B. Smith, M.D.,* Frederick W. Feder, M.D.,* J. F. Kelsey, M.D.,*
and Homer G. Ellis, M.D.*

ABSTRACT

Two cases of the extremely rare leiomyoma of the female urethra are presented. Nineteen cases have been previously reported in the literature. Each of our two cases were treated successfully with surgical excision without entrance into the urethral lumen. This neoplasm should be considered in the differential diagnosis of any mass beneath the anterior vaginal wall.

A leiomyoma arising in the uterus constitutes one of the most common tumors in the body. However, it is seldom found in other organs. Its occurrence in the female urethra is extremely rare.¹ It is among the least common of benign neoplasms which arise from the urethra.²

A recent review of the literature by Shield and Weiss revealed only nine previously reported cases. They added one of their own.³ Our search of the literature uncovered nine more cases.^{4,5} A report of two additional cases is presented here making the total reported cases only twenty-one.

V. W., a 46-year-old para 3-0-2-3 white female was seen because of a four week history of aching in the vagina. She had no urinary tract symptoms. Dyspareunia was noted. Examination revealed a firm, nontender mass that protruded from the anterior vaginal wall. It did not yield urine, mucous, or purulent material when pressure was applied. The lesion was excised through a midline incision in the anterior vaginal wall. Careful dissection revealed a well encapsulated mass originating from the periurethral tissue adjacent to the bladder neck. It was not connected to the vaginal mucosa. Entrance into the lumen of the urethral mucosa was not made. The specimen was 5.8 cm x 4.3 cm x 3.5 cm (Figure 1). Microscopically it was composed of interlacing bundles of unstriated muscle cells in the characteristic

pattern of a leiomyoma (Figure 2). Her convalescence was uneventful.

P. K., a 37-year-old para 0-4-2-4 white female was referred to us because of a mass beneath the anterior vaginal wall causing dyspareunia. Examination revealed a firm, nontender mass beneath the anterior vaginal wall. The lesion was excised through a transverse incision in the anterior vaginal wall. The mass was dissected free from the surrounding structures without entering the

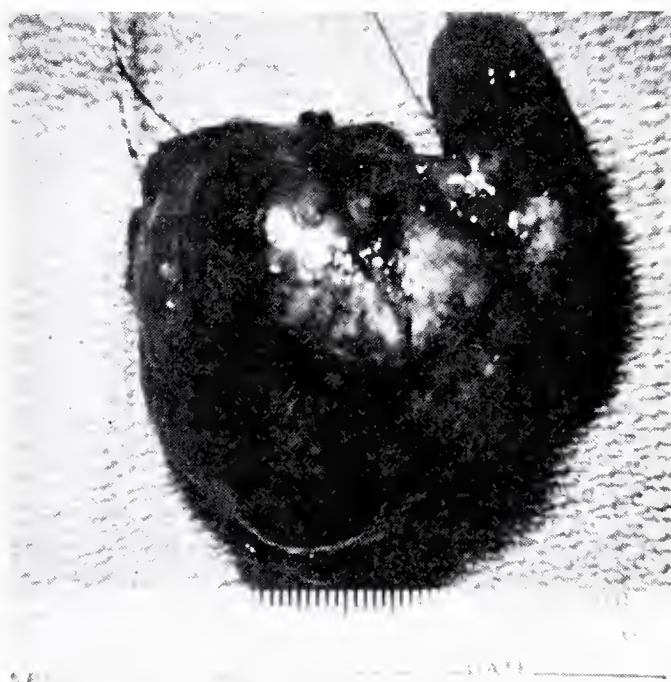


Figure 1
Gross appearance of tumor.

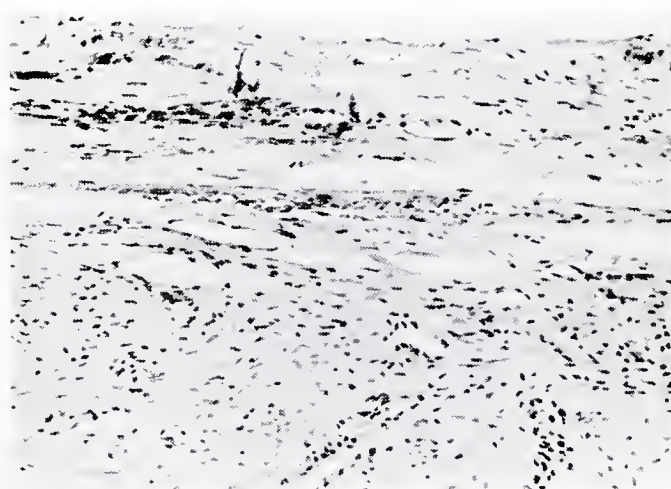


Figure 2
Microscopic section showing benign leiomyoma cells.

*408 South 16th St., Fort Smith, Arkansas 72901.

From the Department of Obstetrics and Gynecology and Urology, Sparks Regional Medical Center, Fort Smith, Arkansas.

The authors gratefully acknowledge the assistance and cooperation of Dr. Roy Gene Girkin and Dr. Sam Koenig.

Reprinted requests: Douglas B. Smith, 408 South Sixteenth Street, Fort Smith, Arkansas 72901.

urethral mucosa. The specimen weighed 50 grams and measured 7 cm x 4 cm x 3 cm. Microscopically it was composed of bundles of smooth muscle cells typical of leiomyoma. Her convalescence was also uneventful.

The usual clinical appearance of a urethral leiomyoma in a female is that of a mass beneath the anterior vaginal wall visible at the introitus (Figure 3). It is very similar in appearance to a cystourethrocele or a urethral diverticulum. Occasionally it can cause bladder outlet obstruction simulating male prostaticism.⁵ As we discovered in our two cases, dyspareunia is common.

Leiomyomas may appear elsewhere in the urogenital system, having been reported in the bladder, epididymis, kidney, penis, prostate, scrotum, seminal vesicles and spermatic cord. The kidney is probably the most common site.³

Preoperative evaluation of urethral leiomyoma should include cystoscopy, urethroscopy and voiding cystourethrogram. This will help localize the extent of the lesion and differentiate it from a urethral diverticulum.

As with all benign urethral tumors, surgical treatment of the leiomyoma consists of simple excision. This can be done without entrance into the urethral lumen. A vaginal approach is best and enucleation is usually readily achieved.

CONCLUSION

Two cases of the very rare leiomyoma of the female urethra are reported. Each presented as a firm mass adjacent to the urethra. Each was

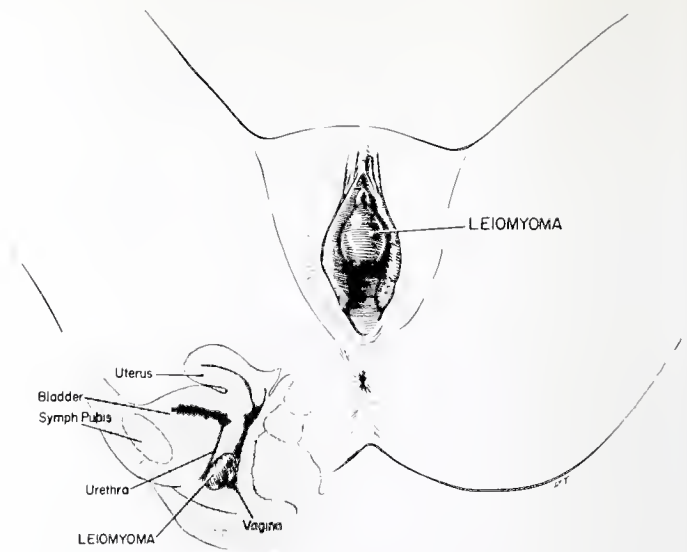


Figure 3
Clinical appearance of urethral leiomyoma. Sagittal section shows location of tumor.

successfully treated by vaginal surgery without entrance into the urethral lumen. This benign neoplasm should be considered in the differential diagnosis of any mass beneath the anterior vaginal wall.

REFERENCES

1. Ratner, M., Strasberg, A. Leiomyoma of the urethra (Female). *Can. Med. Assoc. J.* 50: 439-440, 1944.
2. Radman, H. M. Urethral hemangioma. *J. Urol.* 94: 580, 1965.
3. Shield, D. E., Weiss, R. M. Leiomyoma of the female urethra. *J. Urol.* 109: 430-431, 1973.
4. Kettle, M. J., Loeffler, F. E. Vaginal fibromyomas. *Am. J. Obstet. Gynecol.* 92: 574-575, 1965.
5. Freed, S. Z., Haleem, S. A., Wiener, I., Feldman, J. Bladder outlet obstruction caused by vaginal fibromyoma: The female prostate. *J. Urol.* 113: 30-31, 1975.



History of the Arkansas Chapter of American College of Surgeons Charter No. 51

Martin C. Hawkins, Jr., M.D., F.A.C.S.*

The American College of Surgeons, a national organization which was founded in 1913, is the oldest surgical accrediting organization in the United States, thus preceding the surgical specialty boards by several years.

The Arkansas Chapter of the American College of Surgeons was organized in Searcy, White County, Arkansas, June 15, 1942. Twenty-two of Arkansas' sixty members of the College of Surgeons were present.

During the morning session, the officers of the Arkansas Chapter were elected as follows: President, Martin C. Hawkins, Jr., M.D. of Searcy; Vice-President, A. S. Buchanan, M.D. of Prescott; Secretary-Treasurer, D. E. White, M.D. of El Dorado.

During a luncheon at the Mayfair Hotel in Searcy, the group heard Commander Homer A. Higgins, M.D., a member, who spoke on "Medical Problems of the Selective Service System". A scientific program after the noon session was given by the following members: "Surgery of the Chest", J. K. Donaldson, M.D. of Little Rock; "Review of the Literature on Herniation of Intervertebral Discs", Joseph F. Shuffield, M.D. of Little Rock; "Urological Problems of Interest to the General Surgeon", H. F. H. Jones, M.D. of Little Rock.

During this meeting, it was agreed that the Chapter would meet twice annually; that the next meeting would be at the University of Arkansas Medical Center in Little Rock at which time the Department of Anatomy would present a program on surgical anatomy.

Because of the second world war, the meetings of the Chapter were greatly curtailed. The same officers elected in 1942 served until 1951. In some instances few records were kept and our secretary failed to forward them to the home office in Chicago, explaining why our home office has reported they are missing entirely.

However, after the war the Chapter again became active. The Arkansas Chapter met twice

annually at various towns in the State; many times at the University of Arkansas Medical Center with participation by the faculty of the Department of Surgery and Surgical Specialties. Also, the Arkansas Chapter often met during the annual meeting of the Arkansas Medical Society. By this time, the Southwestern Surgical Congress had organized and members from Arkansas frequently met with the Arkansas Chapter of the College of Surgeons.

Especially interesting and informative meetings were held both in and out of the State as follows:

The Arkansas Chapter of the American College of Surgeons met at Little Rock March 29, 1951, for the following program: "Management of Burns", Ellery C. Gay, M.D. of Little Rock; "Hysterectomy, Indication and Choice of Operation", Willis E. Brown, M.D., Professor and Head of Department of Obstetrics-Gynecology at the University of Arkansas Medical Center at Little Rock; "Anesthetic Emergencies", Edwin Rushia, M.D. of Little Rock.

Officers elected were: President, M. C. Hawkins, Jr., M.D. of Searcy; Vice-President, W. B. Harrell, M.D. of Texarkana; Secretary, D. E. White, M.D. of El Dorado.

The Arkansas Chapter of the College of Surgeons and the Southwestern Surgical Congress met jointly at the Arlington Hotel, August 22, 1952, with the following program: "Carcinoma of the Breast", John B. Goode, M.D. of Dallas, Texas; "Tumors of the Neck", T. P. Foltz, M.D. of Fort Smith; "Acute Abdominal Emergencies", S. W. Hawkins, M.D. of Fort Smith.

Officers elected were: President, W. G. Cooper, M.D. of Little Rock; Secretary, Peter O. Thomas, M.D. of Little Rock.

Specialty Session—Surgery; Tuesday, April 22, 1952. Presiding: Henry G. Hollenberg, M.D. of Little Rock, with the following program: "Hernia", Gene B. Starkloff, M.D.; "Bladder Tumors", Grayson Carroll, M.D.; "Handling Acute Intestinal Obstructions", Harvey Stone, M.D.

*Route 3, Searcy, Arkansas 72143.

On September 18, 1953, the Arkansas Chapter of the American College of Surgeons and the Southwestern Surgical Congress met at Hot Springs with the following program: "Management of Massive Gastrointestinal Bleeding". Denton A. Cooley, M.D. of Houston, Texas, and Cyril J. Costello, M.D. of St. Louis. Case reports were given by H. A. Causey, M.D. of Pine Bluff; M. C. Hawkins, Jr., M.D. of Searcy; Roy I. Millard, M.D. of Russellville; H. E. Mobley, M.D. of Morrilton and John D. Olson, M.D. of Fort Smith.

Officers elected were: President, T. P. Foltz, M.D. of Fort Smith; Vice-President, Roy I. Millard, M.D. of Russellville; Secretary, Peter O. Thomas, M.D. of Little Rock. Councilors for the American College of Surgeons from Arkansas were: Joseph F. Shuffield, M.D. of Little Rock; M. C. Hawkins, Jr., M.D. of Searcy; John D. Olson, M.D. of Fort Smith.

The Surgery Section held a symposium at the Coach Room in the Arlington Hotel in Hot Springs on April 21, 1953, with S. W. Hawkins, M.D. of Fort Smith presiding. Participants in the discussions were H. W. Scott, M.D. of Vanderbilt University, Nashville, Tennessee; Eugene Bricker, M.D. of Washington University School of Medicine in St. Louis; J. Garrott Allen, M.D. of University of Chicago, Chicago, Illinois.

On March 12-13, 1956, the members of the Arkansas Chapter hosted a sectional meeting of the American College of Surgeons. Some four hundred members were present from Mississippi, Louisiana, Texas, Tennessee, Oklahoma, Missouri and Arkansas.

Warren H. Cole, M.D. of Chicago, president of the American College of Surgeons, presided and participated in the convention session.

A symposium on the "Management of Mass Casualties" was presented March 12. Speakers were Lt. Colonel James B. Hartgering, M.D., Walter Reed Army Center at Washington; Joseph R. Scheffer, M.D. of Washington, Chief Surgical Consultant of the Office of the Surgeon General, Department of the Army; Thurman G. Blocker, M.D. of Galveston, Texas and Curtis Lohr, M.D. of the St. Louis County Hospital at Clayton, Missouri.

A symposium on "Trauma" was held at which time Robert H. Kennedy, M.D. of New York

University College of Medicine and Carl A. Moyer, M.D. of Washington University School of Medicine were the speakers.

Dr. Cole had a symposium on "Surgery of the Aged" on March 13. Others participating included Gilbert O. Dean, M.D., Henry G. Hollenberg, M.D. and Joseph F. Shuffield, M.D., all of the University of Arkansas College of Medicine in Little Rock; as well as H. Teasley, M.D. of Texarkana, University of Arkansas College of Medicine and Willard H. Parsons, M.D. of the University of Mississippi School of Medicine at Vicksburg.

A cancer symposium was held March 13 and included William J. Engall, M.D. of Cleveland, Ohio, Cleveland Clinic Foundation; I. Meschan, M.D. formerly of the University of Arkansas College of Medicine and now with the Bowman-Gray School of Medicine in Winston-Salem, North Carolina, and William H. Tuttle, M.D. of Wayne University College of Medicine, Detroit, Michigan. The meeting closed with a symposium on "Acute Abdomen" with James M. Mason, M.D. of Birmingham Medical College of Alabama and B. Mardin Black, M.D. of Rochester, Minnesota, Mayo Foundation University of Minnesota Graduate School of Medicine.

December 9, 1956—The Arkansas Chapter of the American College of Surgeons presented with the University of Arkansas Medical Center a question and answer panel on surgery and surgical specialties.

1960—The Chapter met as guests of Ochsner's Clinic in New Orleans.

1962—The Chapter met at Charity Hospital in New Orleans as guests of Tulane University.

1963—The Chapter journeyed to Houston, Texas, and we were guests of the staff of the M. D. Anderson Hospital.

1964—We were the guests of the staff at Emory University of Atlanta, Georgia, who presented a program for the Chapter.

1965—The Chapter again returned to New Orleans where we were guests of the staff of Ochsner's Clinic.

1966—We went to St. Louis, Missouri, where we were privileged to have a scientific program presented at Barnes Hospital by the surgeons and Washington University faculty members.

For the last several years, the Chapter has been meeting in Hot Springs, Arkansas, in March; Eden Isle in June.

The census list of the Arkansas Chapter of the American College of Surgeons compiled by the Arkansas Medical Society is one hundred and fifty-five fellows at this time.

An attempt has been made to include details of the numerous meetings, interesting programs with highlights included. However, written records were not available for some of the functions of the Chapter.

A list of past presidents of the Arkansas Chapter of the American College of Surgeons is as follows:

June 15, 1942	M. C. Hawkins, Jr., M.D., Searcy
1951	M. C. Hawkins, Jr., M.D., Searcy
1952	William G. Cooper, M.D., Little Rock
1953	Thomas P. Foltz, M.D., Fort Smith
1954	Thomas P. Foltz, M.D., Fort Smith
1955	Roy I. Millard, M.D., Russellville
1956	William B. Harrell, M.D., Texarkana
1957	Julius B. Hellums, M.D., Dumas
1958	Fred Krock, M.D., Fort Smith
1959	Ellery C. Gay, M.D., Little Rock
1960	Jean C. Gladden, M.D., Harrison
1965	John H. Burge, M.D., Lake Village
1969	Marlin B. Hoge, M.D., Fort Smith
1970	William G. Cooper, M.D., Little Rock
1971	Frank Padberg, M.D., Little Rock
1972	Frank Padberg, M.D., Little Rock
1973	David Yocum, M.D., El Dorado
1974	David Yocum, M.D., El Dorado
1975	Porter R. Rodgers, Jr., M.D., Searcy

SOURCES OF INFORMATION

Information relative to the history of the Arkansas Chapter of the American College of Surgeons was obtained from the following sources:

Arkansas Gazette, Little Rock
Arkansas Medical Society, Fort Smith
Little Rock Public Library, Little Rock
Searcy Daily Citizen, Searcy
University of Arkansas Medical Center, Little Rock

Communication with members of the Chapter, data of available Chapter programs, numerous phone calls, history in my personal files and personal communication with families of some of the deceased members.

For sources of information mentioned above, I had the Specialty Desk Service for the Arkansas Chapter of the American College of Surgeons in the offices of the Arkansas Medical Society in Fort Smith send out questionnaires to all members. Completed questionnaires received have been put into a looseleaf book form so that additional data can be added over the years as a part of the Chapters' permanent records. Also, photostatic copies from various sources attesting to the authenticity of historical data used have been made a part of the book.

The office of the Arkansas Medical Society has agreed to file our permanent records, including a copy of this history, for possible reference in the future by interested parties so that all this research will not have to be repeated.



PEDIATRICIAN OR FAMILY PRACTICE . . .

Are you ready to settle into one of the fastest growing communities in the State and start your new practice: Just leasing new office space. Ground level 950 sq. ft. and more on the 2nd level of a new shopping center with easy access and unlimited parking. If you want your own practice free from clinic limitations, contact M. R. Wood, P. O. Box P, Conway, Ark. 72032, for full details.

Medical Personnel Needed

Dedicated Health Professionals needed to serve the Developmentally Disabled at the Arkansas Children's Colony, Conway, Ark.

Immediate openings for:

Medical Services Administrator
— House furnished — Salary Open.

Staff Physician — Salary Open.

Please contact Hurlis V. Graham, Suite 300, Professional Bldg., No. Little Rock, Ark. 72116. Telephone: 501-371-1268.



WANTED: Physician in Emergency Department practice in acute care, general hospital of 166-beds, currently in early phase of twelve million dollar expansion program. Approximately 40 hour week. Arkansas license necessary. Back up of large specialty staff. City of 35,000 and home of the University of Arkansas. Beautiful recreational area. Contact: Administrator, Washington Regional Medical Center, Fayetteville, Ark. 72701; (501) 442-8211.

New group being formed, new twelve-man, "fee for service clinic", just opened in need of Ophthalmologist, Urologist, Internist and Family Practitioners. Excellent school system, two high schools and University only 18 minutes away. No starting investment and full partnership available.

Contact Marvin Hendrix, Admin., or J. Larry Lawson (501) 239-4011 in Paragould, Arkansas.

IMPORTANT INFORMATION: This is a Schedule V substance by Federal law; diphenoxylate HCl is chemically related to meperidine. In case of overdosage or individual hypersensitivity, reactions similar to those after meperidine or morphine overdosage may occur; treatment is similar to that for meperidine or morphine intoxication (prolonged and careful monitoring). Respiratory depression may recur in spite of an initial response to Nalline® (nalorphine HCl) or Narcan® (naloxone HCl) or may be evidenced as late as 30 hours after ingestion. LOMOTIL IS NOT AN INNOCUOUS DRUG AND DOSAGE RECOMMENDATIONS SHOULD BE STRICTLY ADHERED TO, ESPECIALLY IN CHILDREN. THIS MEDICATION SHOULD BE KEPT OUT OF REACH OF CHILDREN.

Indications: Lomotil is effective as adjunctive therapy in the management of diarrhea.

Contraindications: In children less than 2 years, due to the decreased safety margin in younger age groups, and in patients who are jaundiced or hypersensitive to diphenoxylate HCl or atropine.

Warnings: Use with special caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis. In severe dehydration or electrolyte imbalance, withhold Lomotil until corrective therapy has been initiated.

Usage in pregnancy: Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the breast milk of nursing mothers.

Precautions: Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs or known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage. Use with care in patients with acute ulcerative colitis and discontinue use if abdominal distention or other symptoms develop.

Adverse reactions: Atropine effects include dryness of skin and mucous membranes, flushing, hyperthermia, tachycardia and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy, anorexia, restlessness, euphoria, pruritus, angioneurotic edema, giant urticaria, paralytic ileus, and toxic megacolon.

Dosage and administration: Lomotil is contraindicated in children less than 2 years old. Use only Lomotil liquid for children 2 to 12 years old. For ages 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 4 ml. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml., 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

Overdosage: Keep the medication out of the reach of children since accidental overdosage may cause severe, even fatal, respiratory depression. Signs of overdosage include flushing, hyperthermia, tachycardia, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils and respiratory depression which may occur 12 to 30 hours after overdose. Evacuate stomach by lavage, establish a patent airway and, when necessary, assist respiration mechanically. A narcotic antagonist may be used in severe respiratory depression. Observation should extend over at least 48 hours.

Dosage forms: Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. Liquid, 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

SEARLE

Searle & Co.
San Juan, Puerto Rico 00936

Address medical inquiries to:
G. D. Searle & Co.
Medical Department, Box 5110,
Chicago, Illinois 60680

Office Orthopaedics

Pulled Elbow

R. Barry Sorrells, M.D.*

General

The etiologically descriptive term "pulled elbow" refers to a frequently encountered problem in the practice of Office Orthopaedics. This soft tissue injury of the radiohumeral joint is precipitated by sudden traction on the extended upper extremity of a young child. The synonymous terms "Nursemaid's Elbow",^{1,2,6} "Supermarket Elbow", and "Temper Tantrum Elbow" lend further causal description to this painful, crippling malady of the pre-schooler.

Characteristically, the child is lifted by the extended arm with the forearm pronated. (Fig. 1)

*Little Rock Orthopedic Clinic, P.A., P. O. Box 5270, Little Rock, Arkansas 72205.



Figure 1

Boys sustain a pulled elbow more commonly than girls and the left elbow is more commonly affected than the right.^{4,5,8,9} The reason for the sudden lifting by the outstretched arm is usually an attempt by another person to prevent injury. Occasionally, the child led by the hand stumbles and falls, tries to escape, or simply needs a "boost". Frequently the result is a "pulled elbow".

Physical Findings

The appearance of the injured child is characteristic of the orthopedic problem at hand. He stands with the injured elbow limply at the side, frequently supporting his forearm with the opposite hand. The forearm is always pronated and the elbow partially flexed. On gentle palpation one can elicit local tenderness over the anterolateral aspect of the radial head. There is little resistance to flexion and extension. But supination of the forearm is markedly limited and voluntarily resisted. Van Arsdale's graphic description of this constant physical finding is as accurate today as it was in 1889; "Passive supination at once calls forth energetic protestations; the child cries out and actively resists the motion as much as it can, interferes with the other hand and tries to escape."¹³

Pathology

Much has been written in speculation regarding the pathology of this lesion beginning with Fournier⁷ in 1671. However, one of the most reasonable explanations was well researched and described by Salter and Zaltz¹¹ in 1971, three hundred years later. They found that as longitudinal traction is applied to the outstretched arm with the elbow pronated, the annular liga-

ment tears at its attachment to the radius. The head of the radius then moves distally. When traction is released, the ligament is carried up and becomes impacted between the radius and capitellum. (Fig. 2) Because the shape of the radial head is not completely regular, the ligament can be replaced by slight flexion and supination—thus the method of treatment.

Radiology

X-ray findings are minimal and generally not helpful. As stated, this is a soft tissue injury and, while subluxation of the radial head does occur, it is minimal and usually not demonstrable radiographically. An x-ray to rule out fracture should be made, however. This may prove therapeutic rather than diagnostic since reduction is often accomplished as the x-ray technician attempts to supinate the forearm in attempt to record a "true AP view" of the elbow.

Treatment

As described above, treatment is usually simple and accomplished with ease either before or after the diagnosis is made. An attempt is made to gain the child's confidence and the injured arm is supported with one hand under the wrist as the other supports the elbow. Meanwhile a

finger or thumb exerts gentle pressure directed medially at the radiohumeral joint. While the child's attention is diverted, the forearm is quickly and firmly supinated with a single motion. A palpable and sometimes audible "click" can be detected, indicating successful reduction. Following reduction, the parent reacts with amazement, the child is non-impressed, and use of the arm immediately returns.

Immobilization of the flexed elbow in a simple sling is recommended following successful reduction. This is mainly a prophylactic measure to prevent additional traction injury from a parent, peer, or sibling pending soft tissue healing.

Prognosis

The majority of "pulled elbows" are probably reduced either spontaneously by the patient or someone else. As a result many are never seen by a physician and statistics are difficult or impossible to assess.

After manipulative reduction of a "pulled elbow" the prognosis is excellent although approximately 5% will sustain one recurrence of the lesion as a result of a subsequent traction injury.¹²

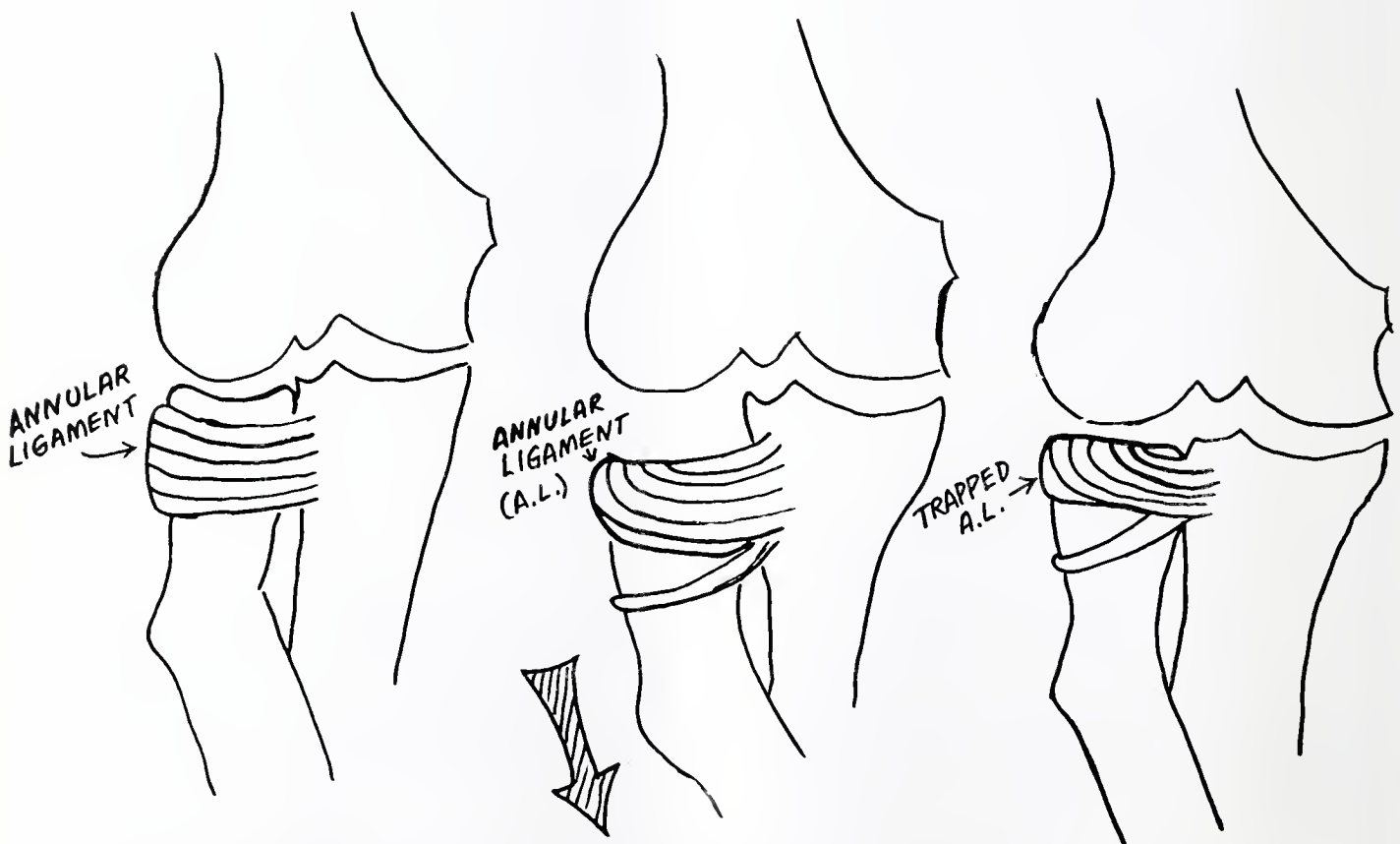


Figure 2

The Pathology of Pulled Elbow. The annular ligament is torn when the arm is pulled. The radial head moves distally and when traction is discontinued the ligament is carried into the joint.¹⁰

In children over the age of four, a recurrent pulled elbow may be irreducible by closed manipulation, and open treatment may be necessary on rare occasion.

BIBLIOGRAPHY

1. Blount, W. B.: *Fractures in Children*, Baltimore, Williams and Wilkins 1955; pp. 58 and 75.
2. Boyette, B. P., Ahoskie, N. C., and London, A. H., Jr.: Subluxation of the head of the radius "nursemaid's elbow", *J. Pediat.* 32:278-281, 1948.
3. Broadhurst, R. W. and Buhr, A. J.: The pulled elbow, *Brit. Med. J.* 1:1018, 1959.
4. Corrigan, A. B.: The pulled elbow, *Med. J. Australia* 2:187, 1965.
5. Costigan, P. G.: Subluxation of the annular ligament at the proximal radio-ulnar joint, *Alberta Med. Bull.* 17:7-9, 1952.
6. Davis, J. H.: Subluxation of the radial head in children (nursemaid's elbow), *Med. Times* 13:1379-1381, 1965.
7. Fournier, D.: *L'oeconomique Chirurgical*, 250, Paris, Françoise Clouzier et cie, 1671.
8. Magill, H. K. and Aitken, A. P.: Pulled elbow, *Surg. Gynec. Obstet.* 98: 753-756, 1954.
9. Matles, A. L. and Eliopoulos, K.: Internal derangement of the elbow in children, *Internat. Surg.* 48:259-263, 1967.
10. Rang, M.: *Children's Fractures*, Toronto, J. B. Lippincott Co., 1974, p. 121.
11. Salter, R. B. and Zaltz, C.: Anatomic Investigation of the Mechanism of Injury and Pathologic Anatomy of "Pulled Elbow" in Young Children, *Clin. Orthop.* 77:134-143, 1971.
12. Snellman, O.: Subluxation of the radial head in children, *Acta Orthop. Scand.* 28:311, 1959.
13. Van Arsdale, W. H.: On subluxation of the head of the radius in children with a resume of one hundred consecutive cases, *Ann. Surg.* 9:401-423, 1889.





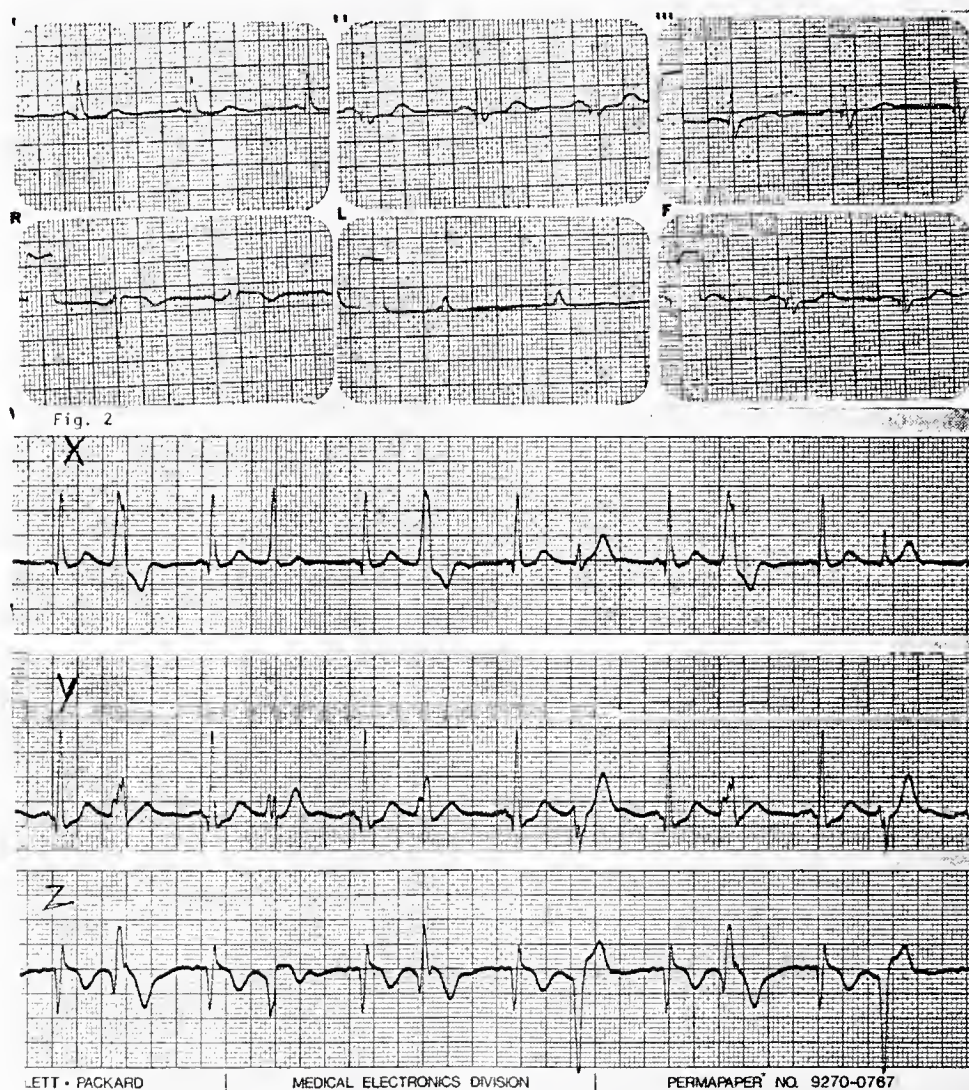
• • • • •
The Department of Cardiology, University of Arkansas Medical Center

(See Answer on Page 214)

The patient is a 68-year-old female who was reported to have a myocardial infarction in 1971. The patient's present complaint was of intermittent rapid irregular heart action, accompanied by dyspnea and dizziness. A routine ECG was done and showed sinus rhythm with no clear evidence of previous damage.

A past posterior infarction could not be excluded. (Fig. 1) A treadmill exercise test was started but was terminated at an early stage. (See Fig. 2)

What is your assessment and recommendation for management.



Robert T. Bulloch, M.D.
Professor of Medicine
Chief, Cardiology Section
University of Arkansas For Health Sciences
Little Rock, Arkansas 72205



PUBLIC HEALTH AT A GLANCE

Arkansas Alliance for Eradication of Venereal Disease

Miss Carol A. Hopkins*

How much concern does venereal disease rate? Sometimes quite a bit and sometimes none at all. It's amazing the 'waves' that are created simply by mentioning the term 'venereal disease'.

On July 18, 1974, a group of prominent individuals met to discuss and do something about venereal disease. This group, composed of these prominent individuals and representatives of organizations throughout the State including: Dr. Ben N. Saltzman, President, Arkansas Medical Society; Kent Rubens, State Representative, West Memphis; Dwain Cromwell, Director of Public Relations, Regional Medical Program, Little Rock; Dr. Robert B. Miller, Jr., Physician, Helena; Dr. Rex C. Ramsay, Jr., Director, Arkansas Department of Health and Dr. E. J. Easley, Assistant Director, Arkansas Department of Health, formed the Arkansas Alliance for Eradication of Venereal Disease (AAEVD).

The Alliance organizational structure consists of a board, executive chairman, coordinator, council of advisors and chapter alliances.

The members of the Alliance believe that the venereal disease epidemic is a problem of State importance; this problem cannot be solved by official government agencies alone; there must be a coordination of efforts in terms of time, energy and resources; all persons, whether group or individual, can promote eradication of venereal disease; and the State Alliance of volunteers oriented primarily to service in combating venereal disease can bring about significant change.

The Alliance is an education/action oriented association consisting of all organizations, agencies and individuals interested in the eradication of venereal disease through a pooling of services at a Statewide level and also through chapter alliances in communities where venereal disease

is a priority. To date, nine Chapter Alliances have been formed.

The Alliance will add to the present venereal disease control program by coordinating efforts, which has not been done in the past, and by creating more community involvement, participation and awareness throughout the State. Other diseases such as smallpox, polio, diphtheria, tuberculosis are 'not tolerated' and are almost completely eradicated. Venereal disease should be added to the list.

Currently, in the nation, Arkansas ranks 24th in syphilis and 10th in gonorrhea. Taken by age groups, Arkansas is 5th in the 15-19 year olds and 4th in the 20-24 year old category. Out of 100 reported cases 94 are under 30 years of age. We are still in an epidemic situation even though Arkansas' statistics are more encouraging than they have been in the past.

On July 19, 1975, Dave McCown was elected Chairman of the Alliance. He replaced John McIntosh of the Arkansas Medical Society.

McCown said, "Over the next five years we will see venereal disease become a major concern of public health in this country. Up till now Arkansas has been the leader among the 50 states in mobilizing for the epidemic which will soon be of national concern. Public awareness will cause other states to follow Arkansas' example, and they will be looking to us as a model on which to base their own campaigns."

"Here in Arkansas we are just beginning. We have a responsibility not only to Arkansas but to the nation as a whole to broaden the scope of our activities in combating venereal disease", according to McCown.

"Venereal disease can be defeated only by a conscientious effort on the part of every person", said McCown, "whether he be an 'aware' phy-

*PH Education Supervisor, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.

sician or a 12-year-old person. It is our job as professionals to bring this disease out of the closets and into the open. And we can do this only if you are willing to help."

Dr. Ralph Henderson of the Communicable Disease Center in Atlanta, Georgia, called "Arkansas' V.D. Control Program a 'model' for other states".

We will continue to be this 'model' through work of the Alliance, its membership, help of the 'aware' physician, complete reporting of venereal disease cases, follow-up through contacts and the interest and support of the layman.

Arkansas has led the country in immunization through the concentrated efforts of the "Every Child By '74" and "Every Child In '74" cam-

paigns. Now we lead the nation in venereal disease control—not venereal disease case rate, as in the past.



ANSWER—Electrocardiogram of the Month

The exercise ECG showed development of very frequent multiform ventricular beats and probably supraventricular beats with aberrant ventricular conduction. The patient had previously been on procaine amide but became allergic to this drug. Currently she is taking quinidine 300 mg q 6h and propranolol 10 mg q 6h. The rhythm disturbance has not been abolished, but is markedly decreased by subjective and objective criteria.



EDITORIAL

Surgery, Gynecology, and Obstetric's "What's New"

Alfred Kahn, Jr., M.D.

Surgery, Gynecology, and Obstetrics again presents a "What's New" Symposium in Surgery—this is the sixteenth and it is, as usual, excellent. It is of interest to all physicians, not just surgical specialists.

D. C. McGoon wrote the section on cardiothoracic surgery and discussed the difficulties in reconstruction of the trachea. His review indicates the degree of tension required to approximate the cut ends of the trachea play a major role—less tension, better healing. Of particular interest are his comments about internal mammary transplantation to increase the blood supply of the heart; he feels this operation has to be used with great care and only if the vessel has a good blood flow; this operation has a limited

use. With regard to grafting to coronary vessels, McGoon stresses the operation's long term results are not fully known. The indications are that after coronary artery grafting, the grafted vessels show an enhanced tendency to obstructive lesions. A third report of general interest was the matter of obtaining cardioplegia for surgery; new work suggests potassium washes may be the best way.

"What's New in Gastro-Intestinal and Biliary Condition" was authored by S. I. Schwartz. He reports a new type of pH meter that is capable of telometry when used in esophageal and gastric studies. He has summarized new information on gastric secretion; of particular interest are his remarks about aspirin. Prostaglandin E levels

in the stomach decrease the manufacture of Prostaglandin E after aspirin consumption; it is suggested that this may play a role in the ulcerogenic activity of aspirin. From a histologic point of view, he states that definite neuro-anatomic evidence of the vague nerve innervating parietal cells has been found but the report has not had a second confirmatory report yet. There has been a lot of interest in the hepatic consequences of ileal by-pass procedures for overweight; one author believes that bacteroides proliferate in the by-passed portion of the ileum; the bacteroides secrete an endotoxin which injures the liver; antibiotics might be helpful.

J. H. Nelson reviewed gynecology and obstetrics. The material presented is largely an extension of previous work. One point of special interest concerns his suggestions that a fetus can be treated for intra-uterine problems with an amnioscope. There are anti prolactin drugs beginning to appear; CB 154 is mentioned as such a drug.

Neurologic Surgery was reviewed by R. H. Patterson, Jr. He reports that aneurysms of the nervous system which cannot be excised can be coated with glue; one that is for sale over the counter that works well is ethyl-2-cyanoacrylate; it polymerizes in two minutes when put on to wet tissue; Patterson further states that this material seems to be free of toxicity and does not elicit unusual reactions by the body. Another interesting point brought up was the question of whether to operate on a vascular abnormality as an aneurysm if it were in a motor area or other sensitive location. Opinion has been against this for fear of leaving a neurologic deficit. Patterson states that one review indicates it is safe to remove aneurysm in these areas as the surrounding brain tissue is said to be "non-functional". Chymopapain treatment of injured discs is discussed—but nonenthusiastically. The feeling is presented that the results with the enzymes is not as good as surgery where the diagnosis is uncomplicated. The enzyme is reported as being moderately successful in ill-defined back disorders—particularly if there was previous surgery. Coagulation therapy of the vertebra facets is being used where the use of fiberoptic scopes has now spread to the nervous system and a scope small enough to thread through a 17 gauge needle is reported. The use of alcohol prior to

injury, Patterson reports, causes a definite enlargement of the injured area. Work is reported on the systemic effects of spinal injuries, especially hypotension.

W. F. Donaldson wrote the orthopaedic review. He comments that total hip replacement in older patients can give "a predictably good result"; in active people, he says the problems of wear and fixation are not fully assessed. Replacement of the knee joint is of two types: hinged and non-hinged. He states that patello-femoral arthritis occurs in some cases. One unusual facet of this paper was Donaldson's comments on aspirin as a preventive of thrombo-embolism; he reports that it works as well as Coumadin or dextran. Female hormone is being tried in osteosarcoma; it depressed the formation of desoxyribonucleic acid.

These are some of the highlights of an extremely interesting group of reviews.



RESOLUTIONS



Dr. Ulysses S. Reed

Whereas, Dr. U. S. Reed was a valued and respected member of the medical community of Jefferson County; and

Whereas, he had served his patients and profession diligently and faithfully for many years;

Be it herewith resolved: That his recent death is noted with deep sorrow by his colleagues of the Jefferson County Medical Society; and,

That a copy of this resolution be sent to Dr. Reed's family as an expression of sympathy; and

That a copy of this resolution be sent to the Journal of the Arkansas Medical Society for publication.

MEDICINE IN THE



THE MONTH IN WASHINGTON

The American Medical Association has filed a lawsuit to block the implementation of new federal drug regulations that would pressure physicians to prescribe low-cost drugs for Medicare and Medicaid patients.

The Maximum Allowable Cost (MAC) regulations were approved in final form by Health, Education and Welfare Secretary Caspar Weinberger a few days before he left office.

Within twenty-four hours AMA filed suit in Northern Illinois District Court contending the program is the epitome in regulatory control—"an impossible labyrinth of drug regulations without assuring a favorable cost-benefit ratio".

The AMA contends the constitutional rights of both patients and physicians would be violated and that the program would produce adversary relationships among patients, physicians and pharmacists.

The disputed regulations would require pharmacists filling prescriptions for Medicare-Medicaid patients, primarily Medicaid, to be reimbursed on the basis of the lowest cost at which the product is generally available to providers. A higher-priced drug reimbursement would be allowed only if the physician signs that it is "medically necessary." The purpose is to stimulate purchase of generic drugs and discourage purchase of brand names that carry higher costs.

By and large physicians will be affected as they deal with Medicaid patients since there is no substantial outpatient benefit for Medicare. In states with anti-substitution laws, a Medicaid prescription for a brand name more expensive than the MAC would mean the patient would have to make up the difference in price unless the physician would be willing to change the prescription to another brand or generic prescription or sign that it is medically necessary.

At an HEW news conference, officials predicted most physicians would go along with the program, estimating that one-half of one percent

would use the "medically necessary" route for brand names that exceed the MAC.

The AMA suit, however, argues that the regulations "violate every one of the drug-reimbursement requirements of the Medicare-Medicaid statutes" and defy the law inasmuch as they represent government interference with medical practice by telling physicians which drugs they should prescribe.

Weinberger estimated the MAC program would save federal and state governments \$60 million to \$75 million a year when it swings into full operation within three to four years.

In addition to the control program, HEW will send all physicians a list of most frequently prescribed drugs along with the prices community pharmacies pay for them. The aim is to encourage physicians to prescribe cheaper products in their regular, private practice.

No sanctions are provided for physicians who decide to write out the "medically necessary" prescription message, but HEW officials speculated that state health agencies might take a look at physicians who do this consistently for all their Medicaid patients. The possible penalty by the state, if it wishes, would be ouster from Medicaid participation, according to the HEW officials.

Before a Maximum Allowable Cost can be established for drugs, the Food and Drug Administration must first indicate that there are no bioequivalence problems among its several brands. The HEW Pharmaceutical Reimbursement Board would then propose a MAC at a level equal to the lowest cost at which the drug is generally available to providers. Before the MAC can officially be established it must be reviewed by a non-governmental advisory committee and published in the Federal Register for comment.

The regulations establish both the Pharmaceutical Reimbursement Board and the 5-member outside advisory group.

HEW said about one quarter of commonly prescribed drugs are available from multiple

sources. However, the number for which bio-equivalence problems can be ruled out is smaller.

The reimbursement that a pharmacist receives for drugs he provides Medicare and Medicaid patients will be based on an estimate of his cost of buying the drug plus a dispensing fee, or on his usual charge to the general public, whichever is the smaller. Program agencies such as a state Medicaid program would make the estimates according to price information supplied on a regular basis by HEW.

The original MAC proposed regulations were amended in some respects. At first, it was recommended that exceptions would be made only if physicians certified the drug was the only one effective or that could be tolerated by the particular patient.

An FRA official said this section was changed in an attempt to meet AMA objections.

The MAC program isn't slated to begin for eight months and will cover at the start some 15 to 20 drug classifications.

Some 2,600 comments were filed with HEW on the MAC proposal with less than 300 favorable.

* * *

A health manpower bill costing \$1.7 billion to aid medical and other health schools has been approved by the House of Representatives.

The measure was stripped on the House floor of a provision that would have regulated residency assignments and ration them by specialty. However, a controversial "payback" provision for medical students did survive the floor fight, though it was watered down.

The American Medical Association waged an all-out drive against both the residency control and payback provisions in the first big medical-legislative battle of the Congressional session.

Though the payback plan was retained in the bill, it was changed on the floor to include a "grandfather" clause exempting all current students, and to allow them a total of three years (instead of 11 months) to begin their payback, either in cash or in shortage area services, and allowing forgiveness for military service.

The hotly-disputed payback would amount to some \$2,000 a year, that portion of the individual students' yearly medical education subsidized by the federal government. It marks the first time that general subsidies to schools would be required to be repaid by students at the

schools, and is expected to raise legal questions on constitutionality if it becomes law.

As a result of the amendments on the House floor, no one would be faced with the payback requirement until 1985 or 1986 provided the plan is enacted into law and survives possible court challenge.

Some fancy parliamentary maneuvering blunted the anti-payback forces drive. Manager of the bill, House Health Subcommittee Chairman Paul Rogers (D-Fla.) steered through the palliative "payback" amendments before calling for a vote. The vote to support the provision was 209-153. Under House rules a vote could not then be taken to reject the amended provision.

Leading the battle against the payback plan was Rep. David Satterfield (D-Va.) who charged it "will certainly violate the spirit, if not the letter, of our constitution."

Terming the plan "a finely baited snare," Satterfield said the medical graduate has to make the decision on cash repayment or service "at a time when he is faced with repaying loans made to provide for his education, the cost of setting up an office, paying for malpractice insurance, and perhaps supporting a family.

"The saddest aspect of all is that the ones who will have no choice but to enter into a period of service will be those medical graduates who come from the poorest families or those with moderate incomes, because under the circumstances they will not be able to do otherwise."

The service payback would be on a year-for-year basis, and for those choosing this option, four years of service would be required in most cases. Otherwise, they would have to pay Uncle Sam \$2,000 a year or \$8,000 in a lump sum.

* * *

The House voted to lift the \$36,000 a year salary lid for Veterans Administration physicians and dentists.

The measure, approved on a 382-3 vote and sent to the Senate, would provide \$5,000 a year in special pay and \$8,500 a year in incentive pay for physicians and dentists working full time for the VA between September 28, 1975 and September 25, 1976. Part-time physicians would be limited to \$41,000 and part-time dentists to \$36,000.

Medical professionals in the armed forces and the Public Health Service previously had been voted bonus pay.

The American Medical Association had urged Congress to approve the higher pay for VA physicians. Still to be resolved is the \$36,000 pay ceiling for other federal physicians under regular civil service.

* * *

The House Ways and Means Subcommittee on Health has opened the first Congressional sessions of the year on National Health Insurance.

Subcommittee Chairman Dan Rostenkowski (D-Ill.) said the purpose was to provide Congress with an overview of the problems involved in NHI and the thinking of experts in the field who are not formally aligned with any outside group seeking passage of specific legislation.

Rostenkowski also announced full-scale formal hearings on NHI will start in early fall at which specific time legislation will be considered.

Four all-day sessions have been conducted to date, with a fifth session scheduled for September.

Here in capsulated form is a sampler of the views expressed before the subcommittee by some of a host of witnesses:

Dr. E. L. Wynder, President of the American Health Foundation, devoted most of his testimony to urging emphasis in any national program on preventive medicine.

Dr. John Freymann, President of the National Fund for Medical Education, called the present health care system a "monstrosity." At the same time he criticized national health in other countries for stifling innovation. Dr. Freymann urged caution in erecting a national health plan here. "We must build on what we have," he said.

Rashi Fein, Economics Professor at Harvard University, took the approach that NHI is "a hallmark of a civilized" society in which medical care costs are shared so that the poor have equal access. He opposed catastrophic, and without directly saying so appeared to be supporting the labor NHI bill.

Uwe Reinhardt, Economics Professor at Princeton University, noted that West Germany's highly nationalized health care system has a worse infant and maternal mortality rate than the U. S. He said there are many very good points about the American system and warned that there are no legislative panaceas. Not only might legislative proposals not result in improvement of health, "but they may cause developments we do not like."

Herman Somers, Princeton professor, suggested

that the government become more deeply involved in financing of health care costs, not in its administration. Discontent with the U. S. health system is not due to poor conditions but to greater public expectations. Health care is better now than ever. Present problems are due as much to the government as to the private sector's own faults.

Robert England, M.D., a private practitioner of Carlinville, Ill., was one of the few non-academic physicians to appear before the subcommittee. He said the Indians of this country are the beneficiaries of complete Federal health care and have the worst health of any group in the nation. Labor's aim, Dr. England said, is to shift health costs to the general public so it can negotiate better wage and other agreements from management. Corporations think the same way, he charged.

John Thompson, President of Blue Shield of Massachusetts, thought Congress should view the NHI debate "not in the perspective of the government's desire to continually expand in numbers and services but rather as to which entity can provide services to the public on the most cost effective basis."

Wilbur Cohen, former HEW Secretary and now the Dean of the University of Michigan School of Education, said he didn't favor enacting any of the NHI bills before the subcommittee. He said developing a NHI bill should be a long and continuing process with time to consult fully providers and consumers. Only the executive branch can do this, he said, charging the present Administration is "tragically incompetent." This isn't the year for Ways and Means to act on NHI, he said. The public must be fully educated about a NHI. Benefits should be phased in slowly with a definite schedule, and the program should be administered outside of HEW by a board of three to five people. The longer Congress deliberates on NHI, the better. Swift action would be "a tragic mistake" for "so monumental an undertaking."

Martin Feldstein, Economics Professor at Harvard, criticized the incentive health insurance provides for hospitals to produce more and better services yet without providing consumers the protection they need against catastrophic costs.

Herbert Klarman, Economics Professor at New York University, said there's no health care crisis. Some problems today simply reflect past successes.

The present system is largely effective. NHI should be a financing instrument only.

Avedis Donabedian, M.D., Professor of Medical Care Organization at the University of Michigan, discussed the problems of defining quality care. Too much emphasis should not be given to statistics or to technological procedures at the expense of personal relationships involving physicians and patients. The PSRO program faces two dangers—it might be implemented halfheartedly and it might use the wrong standards. If both results occur, as he predicted they would, neither much harm nor much good would result, but a large bureaucracy would be created.

Rep. Charles Vanik (D-Ohio), apparently irritated at the defense of the private sector, said most of the doctors he knows think Attila the Hun is a terrible liberal. There are severe problems in health care in this country, Vanik said, such as finding physicians, waiting in hospitals. Congress doesn't "sit here and dream up plans in the night to extend the gargantuan of the federal government. We are pushed and shoved into this by angry constituents."

* * * *

UTERINE CERVICAL CANCER CONTROL

The following resolution was adopted by the membership of the Arkansas Public Health Association on April 25, 1975;

While it is known that early detection of cancer of the uterine cervix can result in the institution of effective curative therapy in a high percentage of cases, only about half of the adult female population in this state has ever been screened for cervical cancer whereby approximately 100 women in Arkansas die needlessly each year.

A large percentage of the adult female population is regularly seen for pre-employment physicals, for physical examinations in the private offices of practicing physicians, in state operated clinics, and for admission to hospital facilities.

The Arkansas Public Health Association urges the continued and increased use of regular cytologic examinations for uterine cervical cancer for all adult females at risk, taking advantage of employment physicals, hospital admissions, and visits to private physicians and supports the principle that these examinations be made easily available and at reasonable cost; also that this resolution be appropriately

circulated to the Arkansas Medical Society, the Arkansas Board of Health, County Medical Societies, the Arkansas Cancer Society, the Arkansas Employment Security Division, and to the hospitals in Arkansas.

Central Arkansas Ostomy Association

In cooperation with the American Cancer Society's Ostomy Rehabilitation Program, the Central Arkansas Ostomy Association at Little Rock provides person-to-person help for new ostomates of all ages and mutual aid and support of its members. Regarding the Association's Visiting Service, they:

carefully select and instruct rehabilitated members on how to visit the colostomy, ileostomy or urostomy patients, pre and post operative; always obtain the *attending physician's* permission before a visit is made; endeavor to build morale in the patient by showing that they themselves lead normal lives; whenever possible, match sex, age, marital status and type of surgery of the patient to the visitor.

The Association does not give medical advice or discuss doctors or their methods. Their sole purpose is to aid in the emotional and physical rehabilitation of the Ostomy patient.

For Visiting Service patient referral, phone 562-0763 or 565-3934. You may write Mr. Ed Brister, President, Central Arkansas Ostomy Association, P. O. Box 3822, Little Rock, Arkansas 72203.

* * * *

Therapeutic Drug Monitoring

The University of Arkansas for Medical Sciences, Division of Clinical Pathology, with the support of the Mental Retardation-Developmental Disabilities Services of Arkansas, can now provide analyses of serum levels of Dilantin, Phenobarbital, and Mysoline (Primadone).

The service does not provide emergency drug assays, but is strictly intended for better maintenance of patients with epilepsy.

The service has been available to all Arkansas physicians since June 1, 1975. Specimen containers, mailers, request forms and instructions are available on physician's request from:

University of Arkansas for Medical Sciences
Clinical Toxicology Laboratory
4301 West Markham Street
Little Rock, Arkansas 72201
AC 501 664-5000, ext. 365
Ms. Genung or Dr. Brewster

New Emergency Treatment Facilities in Memphis

The new emergency treatment facilities for Methodist Hospital's Central Unit in Memphis are now open. Some of the most advanced equipment available in the medical services field has been used in equipping the department, which utilizes the entire ground floor of the new Sherard Wing.

With 20 patient treatment rooms and a self-contained Observation Section with 11 beds and two isolation rooms, the Emergency Department is designed and equipped to offer emergency medical care to some 200 patients a day.

Complete x-ray and laboratory services will be provided within the Unit which also affords direct elevator service to Surgery, Intensive Care and Coronary Care Units. All emergency admissions will be handled here, and after 7:00 P.M., all hospital admissions will be handled in this department.

* * * *

MINUTES

Board of Directors

Arkansas Foundation for Medical Care

The Board of Directors of the Foundation for Medical Care met at 2:00 P.M. on Sunday, August 24, 1975, in the Camelot Inn, Little Rock. Present were Long, Shuffield, Duzan, Kirkley, Fairley, Gray, P. Bell, Irwin, Harris, Andrews, McCrary, Kolb, Kirby, Henry, Koenig, T. E. Townsend, Nathan Poff, Stevenson Flanigan, Mr. Max Blake, Mr. Warren, Mr. Schaefer, Miss Richmond, and Mr. McIntosh.

The Board transacted business as follows:

- President Long advised the Board that the following had been elected to the Board by mail ballot for terms beginning January 1, 1976:

Payton Kolb	Paul Gray
Raymond Irwin	C. C. Long
H. V. Kirby	Allie Andrews
K. R. Duzan	Stevenson Flanigan
Curtis Clark	Nathan Poff
- Upon motion of Kirkley, the Board appointed Allie Andrews to fill the vacancy on the Board created by the resignation of Karlton Kemp.
- President Long introduced Max Blake, who will join the PSRO staff on September 1st.
- President Long reported to the Board on activities relating to the contract for Professional Standards Review (PSRO). He ad-

vised the Board that a grant had been obtained from the Regional Medical Program which allowed the Foundation to employ review coordinators for four regional areas to assist hospitals with preparation for the review program to be carried out under PSRO. He advised the Board that the PSRO would have to enter into a subcontract for data and requested opinions from the Board members regarding proposed subcontractors. If Blue Cross-Blue Shield should be the successful bidder for the data subcontract, the Board indicated that would be satisfactory.

- The Board approved the following appointments to the Professional Review Committee for the PSRO Program:

W. F. Turner, Fort Smith, Chairman
Milton Deneke, West Memphis
Maxwell Cheney, Mountain Home
J. Warren Murry, Fayetteville
Wayne G. Elliott, El Dorado
James Gardner, Hot Springs
George V. Roberson, Pine Bluff
Forney Holt, Little Rock
John E. Bell, Searcy
Wayne Workman, Blytheville

- The Board approved the following appointments to the Health Care Guidelines and Education Committee:

John E. Alexander, Magnolia, Chairman	Family Practice
Rhys Williams, Harrison	Surgery
William O. Bann, Texarkana	Osteopathy
David Lockhart, Forrest City	Family Practice
James Wilson, Little Rock	Internal Medicine
Joe H. Dorzab, Fort Smith	Psychiatry
John W. Trieschmann, Hot Springs	Pediatrics
Carl E. Hyman, Pine Bluff	Obstetrics-Gynecology
James L. Smith, Little Rock	Ophthalmology
Banks Blackwell, Pine Bluff	Orthopaedic Surgery

- The Advisory Group membership was considered and recommendations were made pending the approval of the Advisory Group Plan by the Bureau of Quality Assurance, Office of Professional Standards Review.
- The Board approved conditions for leasing space for the expansion of the Foundation office in Fort Smith and authorized the president of the Board to sign a lease for the space.

The meeting adjourned at 3:35 P.M.

APPROVED: C. C. Long, M.D., President

The Centennial Meeting



Dr. and Mrs. M. R. Springer, Jr., of Hot Springs, prior to the Costume Ball on Tuesday evening at the 1975 Annual Session.



Dr. and Mrs. H. W. Thomas of Dermott discuss the Centennial activities and the evening's Costume Ball.



Dr. Ben Saltzman and Mrs. Saltzman of Little Rock, Dr. John Wood of Mena, and Dr. H. W. Thomas of Dermott, celebrate the Centennial.

THINGS TO COME

Phenomenology and Treatment of Depression

The Office of Continuing Medical Education, Baylor College of Medicine, Houston, Texas, announces a course on the Phenomenology and Treatment of Depression. The course will be presented by the Department of Psychiatry, Baylor College of Medicine, Houston. It will be held December 4-5, 1975, at the Shamrock Hilton Hotel, Houston.

An outstanding faculty of basic scientists and clinicians with special expertise in the investigation and treatment of depression will present current information on the nature and management of depressive disorders. The two day conference will consist of formal didactic sessions and an informal evening session at which time conferees and faculty will be able to exchange information on their interests and professional experiences with varied aspects of psychiatric depression.

This Continuing Medical Education offering meets the criteria for 15½ hours of credit in Category I for the Physicians Recognition Award of the American Medical Association, and is acceptable for 15½ Prescribed Hours by the American Academy of Family Physicians.

Registration fee is \$150.00. For further information contact The Office of Continuing Education, Baylor College of Medicine, Texas Medical Center, Houston, Texas 77025. Phone AC 713 790-4941.

Postgraduate Seminar in Emergency Medicine

The Fourth Annual Postgraduate Seminar in Emergency Medicine will be held March 19-22, 1976, at the Americana Hotel, Miami Beach, Florida.

The Seminar will be sponsored by the Florida Chapters of the American College of Emergency Physicians and the Emergency Department Nurses Association. Fees are as follows: \$125 (ACEP), \$150 (Non-ACEP Physicians), \$75 (EDNA), \$100 (Non-EDNA Nurse), \$75 (Registered EMT — State or National), \$100 (Non-Registered EMT), \$40 (Interns and Residents with letter from Department Head), \$100 (Administrators, Planners, and others).

For further information contact: Registrar,

1976 PGS, 1919 Beachway Road, Suite 5-C, Jacksonville, Florida 32207. Phone AC 904 399-0510.

EDUCATIONAL OPPORTUNITY ANNOUNCEMENTS

SEMINAR:

A Gastro-Intestinal Seminar: "Gut Issues and Answers"

DATE:

11-6-75 thru 11-8-75

PROGRAM DIRECTOR:

E. Clinton Texter, Jr., M.D.

*For more details, contact the Department of Continuing Education for Physicians, University of Arkansas For Medical Sciences Campus, 4301 West Markham, Little Rock, Arkansas 72201.



O B I T U A R Y

Dr. Ulysses S. Reed

Dr. Ulysses S. Reed of Pine Bluff died July 16, 1975, at the age of sixty-four. He was a graduate of the Meharry Medical College School of Medicine in Nashville, Tennessee, in 1953.

Dr. Reed was a past president of the Arkansas Medical, Dental and Pharmaceutical Association.

He was a member of the Jefferson County Medical Society, Arkansas Medical Society, and the American Medical Association. He was a veteran of World War II and a Mason.

Dr. Reed is survived by his wife, Mrs. O. B. Reed, and two sons, Ulysses and Samuel, both of Pine Bluff.

Dr. Arthur Manfield Washburn, Sr.

Dr. A. M. Washburn, Sr., of Little Rock died August 30, 1975, at the age of eighty-five. He was a native of Burlington, Iowa, and a 1917 graduate of Rush Medical College, Chicago, Illinois. He also held a Ph.D. degree in public health from the Harvard School of Public Health.

Dr. Washburn retired in 1960. He had served as director for the Arkansas State Health Department's division of communicable diseases for twenty-three years. Prior to joining the State

Health Department, he had been in private practice in Chicago for four years, and had served as medical director for the Mississippi County Health Unit in Blytheville.

Dr. Washburn was an officer in the Army Medical Reserves in World War I, and was a veteran of World War II. He retired from the Army

Reserve in 1950 as a full colonel. He was a member of the Pulaski County Medical Society, the Arkansas Medical Society, and the American Medical Association.

He is survived by two sons, Arthur M., Jr., of Tulsa, and John of Little Rock, and a daughter, Mrs. Joseph Trionfante of Little Rock.



PERSONAL AND NEWS ITEMS

Family Doctors Elect Officers

Dr. Paul Wallick of Monticello was installed as president of the Arkansas Academy of Family Physicians at their 1975 Annual Session. Dr. Ken Lilly of Fort Smith is the new president-elect; Dr. George Warren of Smackover, vice president; and Dr. James K. Patrick of Fayetteville, secretary-treasurer.

Dr. Read is EMS Director

Dr. Raymond C. Read of Little Rock has been appointed Medical Director of the Arkansas Emergency Services System. Governor Pryor's appointment was announced by Dr. Rex C. Ramsay, director of the State Health Department.

Dr. Heidgen Honored by Hospital

Dr. Martin F. Heidgen, who had practiced medicine for over 20 years in Russellville, was honored by the Memorial Hospital at Elmhurst, Illinois. The hospital dedicated a plaque and portrait of Dr. Heidgen in the hospital's main lobby. He joined Elmhurst as a resident physician and acting superintendent in 1932, and served as superintendent for the hospital for more than 25 years.

Dr. Saltzman New Association President

The Arkansas Chapter of the American Association of Mental Deficiency has elected Dr. Ben N. Saltzman of Little Rock as its new president.

Dr. Dickinson on Rehabilitation Panel

Governor Pryor named Dr. Bill Dickinson of DeQueen as a member of the new State Com-

mission on Community Based Rehabilitation. The five-man commission will make recommendations to the Board of Corrections, the Department of Correction, and the Correction Commissioner concerning rehabilitation alternatives to prison confinement.

Forrest City Sponsors Vietnamese Doctors

Dr. E. P. Hammons and Dr. C. E. Crawley of Forrest City have sponsored a Vietnamese refugee physician and eight members of his family. Dr. Nguyen Huu Man will be working with the Forrest View Clinic as an assistant until he can qualify for licensure in Arkansas.

Cancer Research Program in Arkansas

The Head and Neck Cancer Service of the University of Arkansas College of Medicine is one of four programs in the United States approved for a \$190,000 National Cancer Institute contract to establish a cancer detection and control team. Dr. James Y. Suen, Dr. Kent C. Westbrook, and Dr. Don Harris, all of Little Rock, will form the nucleus of the team.

Hughes Doctor's Office Robbed

Dr. F. H. Fong's office in Hughes was robbed recently. The building was completely ransacked—with money, drugs, and a number of syringes taken.

Dr. Killough Locates in Searcy

Dr. Larry Killough will be associated with Dr. Eugene Joseph in general practice in Searcy. Dr. Killough, a native of Searcy, formerly practiced in Camden. He is a 1956 graduate of the University of Arkansas School of Medicine.

Dr. Gordon's Article Published

The August issue of the Southern Medical Journal included an article entitled "Hypersensitivity Pneumonitis" by Dr. Vida H. Gordon, et al., of Little Rock.

Dr. Martin Relocates

Dr. Rick Martin, formerly associated with the Family Doctor's Clinic in Fort Smith, has relocated his family practice in Greenwood. Dr. Martin will be associated with Dr. Charles Bailey.



PROCEEDINGS OF SOCIETIES

MINUTES

COUNCIL OF THE ARKANSAS MEDICAL SOCIETY

The Council of the Arkansas Medical Society met at 11:00 A.M. on Sunday, August 24, 1975, in the Camelot Inn, Little Rock. Present were: Long, Townsend, Koenig, Crow, Shuffield, Duzan, Kirkley, Fairley, Gray, P. Bell, Irwin, Harris, Andrews, McCrary, Kolb, Kirby, Henry, Saltzman, Brown, Robert Benafield, Mr. Harris, Mr. Warren, Mr. Schaefer, Miss Richmond and Mr. McIntosh.

The Council transacted business as follows:

1. Upon the motion of Kolb, the Council voted to hold the 1977 Annual Session April 24-27 at the Camelot Inn in Little Rock.
2. Accepted the rates proposed by Blue Cross-Blue Shield for the Society's group plan for the next year, upon motion of Kirkley. The rates effective September 1 represent an increase of 22.8%.
3. The Council approved the appointment of Dr. James Rasch to the Eighth Councilor District Professional Relations Committee, as nominated by the councilors.
4. Approved travel expenses for Mr. Warren to attend a seminar in New Orleans on emergency medical services.
5. After discussion of the current situation regarding medical malpractice, it was generally agreed that members of the Society should urge members of the Legislature to propose

amendment of the State Constitution to make remedial legislation possible.

6. Mr. Schaefer reported to the Council on recent developments regarding Public Law 93-641, the health planning legislation. He called attention to the fact that the Economic Development Districts were organizing the Health Service Areas with little or no input from the medical profession. He reiterated his judgment that Public Law 93-641 would develop into a law more repressive to medicine than Medicare or National Health Insurance. He urged that physicians take an active part in the formation and continuing leadership of the Health Service Areas.

7. Upon the motion of Kolb, the Council approved the following travel program for 1976:

INTRAV's South Pacific Adventure for March

INTRAV's European Adventure for July

8. Upon motion of Kirkley, the Council approved scheduling the winter meeting for December 14 at the Camelot Inn in Little Rock.
9. Upon the motion of Townsend, the Council voted to support the efforts of the Arkansas Association for Mental Health to continue their program of furnishing pamphlets to new mothers, provided there is no financial obligation on the part of the Society.

In executive session, the Council transacted the following business:

1. Authorized the State Headquarters to enter into a ten year lease for office space to be sublet to the Arkansas Foundation for Medical Care.
2. Heard a report from Robert McCrary on the activities of the Private Insurance Review Committee.

The meeting adjourned at 1:45 P.M.

APPROVED: C. C. Long, M.D.

Chairman of the Council



NEW MEMBERS

Dr. Douglas Franklin Smart

The Pulaski County Medical Society has added the name of Dr. Douglas F. Smart to its membership roll. He is a native of McKinney, Texas.

He graduated from Southern State School in Magnolia, Arkansas, in 1966. He was graduated from the University of Arkansas School of Medicine in 1970. Dr. Smart completed his internship at the University of Arkansas Medical Center in Little Rock, as well as a residency in Internal Medicine and a Fellowship in Gastroenterology. He also received training in Gastroenterology at the Veterans Administration Hospital in Little Rock.

Board Certified by the American Board of Internal Medicine, Dr. Smart is a member of the American College of Physicians. He held teaching appointments as an instructor in the Department of Medicine at the Medical Center, and also at the Veterans Administration Hospital in Little Rock.

Dr. Smart is practicing Gastroenterology at 409 North University, Little Rock, associated with Gastroenterology Associates, P.A.

Dr. Michael Clinton Roberson

Dr. Michael C. Roberson, a native of Searcy, Arkansas, is a new member of the Pulaski County Medical Society.

Dr. Roberson received his B.A. degree in 1964 from Hendrix College, Conway, Arkansas. He received an M.S. degree from the University of Arkansas Graduate School in Little Rock in 1968. He was graduated from the University of Arkansas School of Medicine in 1968. Dr. Roberson's internship was completed at the University of Arkansas Medical Center. He completed an Ophthalmology residency at the Baylor College of Medicine Affiliated Hospitals in Houston in 1972.

Dr. Roberson is Board Certified by the American Board of Ophthalmology. From July 1973

through July 1974, he was Chief of Ophthalmology, United States Air Force Medical Center, Scott Air Force Base, Illinois. In July 1975, he completed work at Ohio State University where he was a Fellow and Clinical Instructor in Ophthalmology. Dr. Roberson is practicing Ophthalmology at 623 Woodlawn, Little Rock, associated with Dr. James L. Smith.

Dr. Leslie Sessions

A new member of the Pulaski County Medical Society is Dr. Leslie H. Sessions. He is a native of Hattiesburg, Mississippi.

Dr. Sessions graduated from Southern State College, Magnolia, Arkansas, with a B.S. degree in 1969. He was graduated from the University of Arkansas School of Medicine in 1973 and completed his internship at St. Vincent Infirmary in Little Rock in 1974. Dr. Sessions is in Family Practice at 424 North University, Little Rock.

Dr. Ton That De

The Ashley County Medical Society has accepted Dr. Ton That De for membership. He is a native of Thua Thien, Vietnam.

Dr. Ton's pre-medical education was received at the Hanoi Faculty of Sciences, North Vietnam, where he graduated in 1952. He received his M.D. degree in 1972 from the Saigon Faculty of Medicine, Saigon, Vietnam. He completed a rotating internship at the Lutheran Medical Center, Cleveland, Ohio, in 1971. Dr. Ton was a resident in Obstetrics and Gynecology at Maryland General Hospital, Baltimore, Maryland, from 1971 until 1972. He practiced in Vietnam for fifteen years. Dr. Ton is practicing Family Medicine at the Wilmot Medical Center, Wilmot, in association with Dr. Thieu Bui.

Dr. Thieu Bui

Dr. Thieu Bui is a new member of the Ashley County Medical Society. He is a native of Nhatrang, Vietnam.

Dr. Bui is a 1954 graduate of the Faculty of Sciences, University of Saigon, Saigon, Vietnam. He was graduated from the Saigon Faculty of Medicine in Saigon in 1961. Dr. Bui completed an internship and residency program at Morgantown Medical Center, associated with the West Virginia University School of Medicine, Morgantown, West Virginia, in 1968.

Dr. Bui is practicing Family Medicine at the Wilmot Medical Center, Wilmot, in association with Dr. Ton That De.

Attention Arkansas Physicians:

**Come
early, or
stay late.**



**Take advantage of the off season rate.
Combine your education & your vacation.**

Southern Medical Association 69th Annual Scientific Meeting

**Miami Beach, Florida—Hotel Fontainebleau
Nov. 16-19, 1975**

We could draw pretty word pictures about Miami—the scintillating beaches, the glamorous hotels, the superb cuisine, the intriguing spots to visit, the unequalled vacationland—but we won't. You'll have to find out for yourself.

But we will tell you about the most exciting scientific medical meeting of the year — the 69th Annual Scientific Meeting of the Southern Medical Association — featuring a wide range of symposia, 22 sections, live teaching demonstrations, learning center,

postgraduate courses, closed-circuit television—something for every specialty.

The Continuing Education Program of the Southern Medical Association has been granted full approval by the American Medical Association's Council of Medical Education.

The best of two worlds is awaiting you.

Make your plans now while reservations are available. Write: Southern Medical Association, 2601 Highland Avenue, Birmingham, Alabama 35205.

November, 1975

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Vol. 72 No. 6

FORT SMITH, ARKANSAS

ARKANSAS MEDICAL SOCIETY
CENTENNIAL YEAR

BECOTIN®
Vitamin B Complex

BECOTIN® with VITAMIN C
Vitamin B Complex with Vitamin C

BECOTIN®-T
Vitamin B Complex with Vitamin C, Therapeutic

MI-CEBRIN®
Vitamins-Minerals

MI-CEBRIN T®
Vitamin-Minerals Therapeutic

AND A WIDE VARIETY OF OTHER PHARMACEUTICALS



DISTA PRODUCTS COMPANY
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

400944

LIBRARY
U.C. SAN FRANCISCO
DEC 4 1975

Both often



- Predominant psychoneurotic anxiety

- Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent

in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium[®] (diazepam) 2-mg, 5-mg, 10-mg tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Owned by
THE ARKANSAS MEDICAL SOCIETY
And Published Under Direction of the Council

ALFRED KAHN, JR., M.D., Editor
1300 West Sixth Street Little Rock, Arkansas

MR. PAUL C. SCHAEFER, Business Manager
214 North 12th Street Fort Smith, Arkansas

LITTLE ROCK BUSINESS OFFICE
114 E. Second St. Little Rock, Arkansas

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY

T. E. TOWNSEND, President	Pine Bluff
A. S. KOENIG, JR., President-Elect	Fort Smith
ASA A. CROW, First Vice President	Paragould
MAHLON O. MARIS, Second Vice President	Harrison
DONALD L. DUNCAN, Third Vice President	Texarkana
ELVIN SHUFFIELD, Secretary	Little Rock
KENNETH R. DUZAN, Treasurer	El Dorado
AMAIL CHUDY, Speaker,	
House of Delegates	North Little Rock
CHARLES F. WILKINS, JR., Vice Speaker,	
House of Delegates	Russellville
ALFRED KAHN, JR., Journal Editor	Little Rock
C. C. LONG, Delegate to AMA	Fort Smith
PURCELL SMITH, Delegate to AMA	Little Rock
JOE VERSER, Alternate Delegate to AMA	Harrisburg
T. E. TOWNSEND, Alternate Delegate to AMA	Pine Bluff
MR. PAUL C. SCHAEFER, Executive Vice President,	
P. O. Box 1208	Fort Smith

COUNCILORS

First District	JOHN B. KIRKLEY	Jonesboro
	*ELDON FAIRLEY	Osceola
Second District	JOHN E. BELL	Searcy
	*PAUL GRAY	Batesville
Third District	*L. J. P. BELL	Helena
	FRED C. INMAN, JR.	Carlisle
Fourth District	JOHN P. BURGE	Lake Village
	*RAYMOND IRWIN	Pine Bluff
Fifth District	*J. B. JAMESON, JR.	Camden
	JOHN H. MOORE	El Dorado
Sixth District	*C. LYNN HARRIS	Hope
	A. E. ANDREWS	Texarkana
Seventh District	*ROBERT F. McCRARY	Hot Springs
	CURTIS CLARK	Sheridan
Eighth District	WILLIAM S. ORR, JR.	Little Rock
	*W. PAYTON KOLB	Little Rock
Ninth District	*HENRY V. KIRBY	Harrison
	MORRIS M. HENRY	Fayetteville
Tenth District	KEMAL KUTAIT	Fort Smith
	*C. C. LONG	Fort Smith

*Senior Councilor

The Advertising policy of this JOURNAL is governed by the PRINCIPLES OF ADVERTISING of the State Medical Journal Advertising Bureau, Inc., by the Advertising Committee of the Bureau and by the Council of the Arkansas Medical Society.

EXCLUSIVE PUBLICATION—Articles are accepted for publication on the condition that they are contributed solely to this JOURNAL.

COPYRIGHT 1975—By the JOURNAL of the Arkansas Medical Society.

NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

SCIENTIFIC ARTICLES

The Effects of Religious
Backgrounds on Emotional
Problems 227
Frank Minirth, M.D.

Diseases of the Prostate:
An Outline to Diagnosis
and Treatment 235
*Nabil K. Bissada, M.D.,
and John F. Redman, M.D.*

Education of the
Juvenile Diabetic 239
*Diana Thompson, R.N., B.S.N.,
and M. Joycelyn Elders, M.D.*

FEATURES

Office Orthopaedics:
Painful Thumb 249
Kenneth G. Jones, M.D.

EKG of the Month 251
Robert T. Bulloch, M.D.

Arkansas Public Health At a Glance,
"M.E.D.D.—Medical Examinations
For Disease Detection" 252
Jerry Wilson, Research Analyst

Editorial: "Medical Wanderings" 253
Alfred Kahn, Jr., M.D.

Medicine in the News 255

Things to Come: Announcements
in the Field of Continuing
Education 261

Personal and News Items 262

Obituary 263

New Members 263

Woman's Auxiliary 265

Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72901.
Published monthly under direction of the Council, Arkansas Medical Society, Volume 72, No. 6. Subscription
\$2.00 a year. Single copies 50 cents. Entered as second class matter, May 1, 1955, in the post office at Little
Rock, Arkansas, under the Act of Congress of March, 1879. Acceptance for mailing at special rate of postage
provided for in Section 1103, Act of October 3, 1917, authorized August 1, 1918. Second-class postage paid at
Little Rock, Arkansas.

The Effects of Religious Backgrounds on Emotional Problems

Frank Minirth, M.D.*

A REVIEW OF THE LITERATURE

The objective of this study has been to examine the religious backgrounds of alcoholics to determine if there was a particular pattern. We desired to answer such questions as: Do particular religious backgrounds predispose to alcoholism? Would Baptist, Methodist, Church of Christ, Pentecostal or Roman Catholic Churches have a higher or lower ratio of alcoholics? Do alcoholics feel their religion contributed to their drinking problem, or rather, do they feel it helped them deal with their drinking problem?

Thus, this paper deals with the specifics of alcoholism as it relates to religious background. Before considering this specific aspect, two general topics bearing on this subject are considered. The first deals with religion and psychiatry. The second deals with the causes of alcoholism. Then, in this paper we present our findings of whether religion is one of the causes of this psychiatric problem.

Much has been written about religion and psychiatry.^{1-16,21} Freud was not impressed with the benefits of religion, and in fact, felt it was a "universal obsessional neurosis".⁷⁻⁹ Jung, on the contrary, felt religion was very important, and he wrote much in the field of religion and psychiatry.¹⁴ Of course, the work of William James, *The Varieties of Religious Experience*, has become a classic.²¹ Although Adler's and Fromm's major contributions have not been in this field, they apparently felt it played an important part in man's life and psychological makeup.^{15,16} Christensen³ and Allison⁶ felt that religious conversion may help to reintegrate a weakened ego. Pattison⁴ felt that there may be validity for the claim that the therapist should

help the patient work toward spiritual goals. In like manner, Bronner¹³ and Bergman¹² believed there should be a positive acceptance or respect of the patient's religious beliefs. Meyerson¹¹ has studied the psychoanalytic meaning of the cross and related that it is not only a symbol of Christianity and the crucifixion but also of love since a person with arms outstretched represents tenderness, warmth, affection, and a readiness to embrace. He has further suggested that a person terrified by love would try to destroy this symbol. And finally, recent papers by Wilson^{2,10} and Nicholi¹ have pointed toward the positive benefits of "religious conversion". In fact, based on their research of resulting healthy changes in life style, improved impulse control, improved academic performance, and improved interpersonal relationships, they have suggested that "religious conversion" may be one of the most profoundly transforming of human experiences.

Much has also been written about the causes of alcoholism.¹⁷⁻²¹ Freud felt it was the result of oral influences and an escape from reality.¹⁸ Meninger felt it was a self-destructive drive.¹⁸ Knight felt an inconsistent father and an over-indulgent mother were to blame.¹⁸ Koller's research showed parental loss could be an important factor.¹⁷ Adler felt feelings of inferiority were important.¹⁸ Tollard, Miller, Shoben, and Skinner preposed learning theories as causes.¹⁸ Westerfield, Himwich, and Randolph preposed psychobiological theories, and Horton, Synder, and Barnett thought the sociological aspect was important.¹⁸

Could sick religion also be a cause of alcoholism? The following paragraphs present our findings. The methods used to do the study were as follows:

SUBJECTS AND METHODS

Sixty-seven subjects from an alcoholic, inpatient ward were interviewed. They were asked various questions relating to their genetic, en-

*Former Psychiatry Resident, University of Arkansas College of Medicine.

Current address: Suite 411, Carillon Plaza, 13601 Preston Road, Dallas, Texas 75240.

vironmental, and religious backgrounds. They were asked questions relating to:

1. Family—Genetic History
2. Family—Environmental History
3. Age
4. Sex
5. Race
6. Education
7. Marital Status
8. Job
9. Church Attended

	Regular	Irregular
Birth to 6 years		
7 to 12 years		
13 to 18 years		
Now		
10. Did religion play an important part in your life when you were young (age 0-18)?
Now?
11. Religion of parents
12. Religion of spouse
13. Have you had what you consider a religious experience?
14. How do you interpret religion?
15. Do you consider yourself a Christian?
16. According to your view how does someone become a Christian?
17. At what age did your drinking problem start?
18. Do you feel religion contributed to your drinking problem?
19. Do you feel religion has helped you in dealing with your drinking problem?

The following percentages clarify the specifics on the subjects in the study:

1. Family—Genetic History

Number of patients indicating father had drinking problem	= 17
Number of patients indicating brother had drinking problem	= 15
Number of patients indicating sister had drinking problem	= 5
Number of patients indicating grandfather had drinking problem	= 2
Number of patients indicating mother had drinking problem	= 1
Total patients (of possible 67 in study) indicating possible genetic history	= 40
Percentage of patients with possible genetic history in alcoholism	= 60%

2. Family—Environmental History

Number of patients indicating problems in their relationship with their father	= 6
Number of patients indicating problems in some way relating to their mother	= 2
Number of patients indicating problems with health when young	= 1
Number of patients indicating environmental problems secondary to poverty	= 1
Total patients (of possible 67 in study) indicating environmental difficulties when young	= 12
Percentage of patients with environmental history contributing to alcoholism	= 18%

The above divisions (genetic and environmental) are used for convenience but, of course, it is often impossible to separate the two.

*Two explanations were not clear.

3. Age

Number of patients in age range 20-39 years	= 17
Number of patients in age range 40-59 years	= 45
Number of patients in age range 60-79 years	= 5
Total	67
Percentage of patients in age range 20-39 years	= 25%
Percentage of patients in age range 40-59 years	= 67%
Percentage of patients in age range 60-79 years	= 8%
4. Age Drinking Problem Started

Number of patients in age range less than 20 years	= 22
Number of patients in age range 20-39 years	= 33
Number of patients in age range 40-59 years	= 9
Number of patients in age range 60-79 years	= 0
No answer or definite age not indicated	= 3
Total	67
Percentage of patients in age range less than 20 years	= 33%
Percentage of patients in age range 20-39 years	= 50%

Percentage of patients in age range 40-59 years	= 13%
Percentage of patients in age range 60-79 years	= 0%
Percentage no answer	= 4%
5. Sex	
All patients in this study were males.	
6. Race	
Number of white patients	= 54
Number of black patients	= 12
Number of Indian patients	= 1
7. Education	
Number of patients with less than 6th grade education	= 6
Number of patients with 7-11 years of education	= 21
Number of patients with 12 years of education	= 27
Number of patients with some college education	= 11
Number of patients with graduate degree (college)	= 2
Total	<u>67</u>
Percentage of patients with less than 6th grade education	= 9%
Percentage of patients with 7-11 years of education	= 31%
Percentage of patients with 12 years of education	= 40%

Percentage of patients with some college education	= 17%
Percentage of patients with graduate degree (college)	= 3%
8. Marital Status	
Number of patients who are married	= 18
Number of patients who are divorced	= 30
Number of patients who are separated	= 11
Number of patients who are single	= 6
Not indicated	= 2
Total	<u>67</u>
Percentage of patients who are married	= 27%
Percentage of patients who are divorced	= 45%
Percentage of patients who are separated	= 16%
Percentage of patients who are single	= 9%

9. Job

Approximately 61% of the patients were blue collar workers, approximately 22% of the patients were white collar workers.

The results of this study are arranged in the following paragraphs, lists, charts, and graphs.

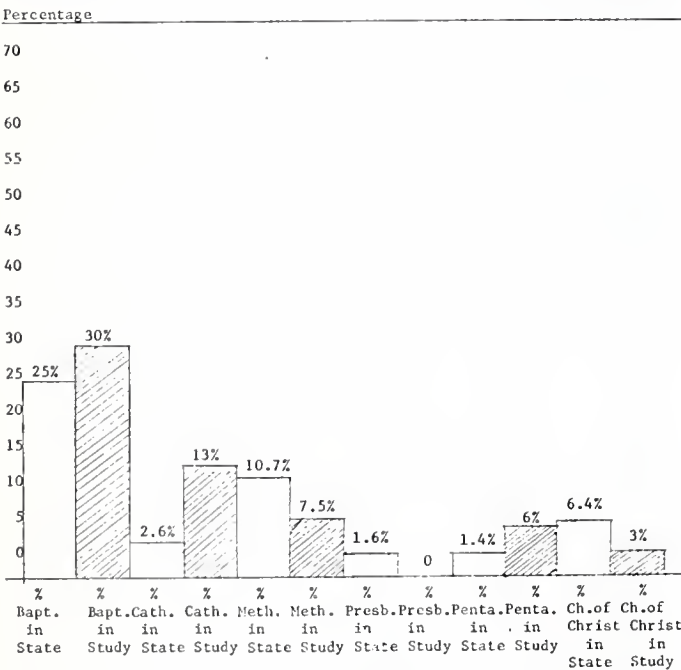
RESULTS

1. Church Attended

	0-6 years		7-12 years		13-18 years		Now	
	Regular	Irreg.	Regular	Irreg.	Regular	Irreg.	Regular	Irreg.
Baptist	21	9	21	11	18	12	4	16
Methodist	5	2	5	4	3	4	0	5
Catholic	3	2	3	4	3	4	0	9
Church of Christ	2	0	1	1	1	1	1	1
None	13	0	8	0	11	1	22	0
Assembly of God	1	0	0	1	0	1	0	1
Church of Nazarene	1	0	1	0	0	0	0	2
Pentecostal	0	2	0	2	0	3	0	3
Lutheran	0	1	0	1	0	1	0	0
Answer not clear	1	0	0	0	0	0	0	0
Protestant	1	0	1	0	1	0	1	0
Church of God	1	1	1	1	0	3	0	0
Varied churches	0	1	0	1	0	1	0	1
Christ's Church	0	0	0	0	0	0	0	1
Total Attendance	36	18	33	26	25	31	6	39
Regular Attendance	36		33		25		6	
Irregular + none	31		34		42		61	
Irregular	18		26		31		39	
None	13		8		11		22	

For this data to be significant, the percentage of the State that belongs to each denomination should be considered. Below is a list for the State of Arkansas of the total number of church members:

Baptist (American, Negro, North American, Southern)	=	546,806
Methodist (A.M.E., Zion Christian Methodist, United)	=	217,256
Church of Christ (estimate)	=	123,000
Catholic	=	53,234
Presbyterian	=	32,632
Pentecostal (Assembly of God, Church of God)	=	29,410
Episcopal	=	12,000
Christian Church	=	10,913
Lutheran	=	7,453
Nazarene	=	7,417
Latter Day Saints	=	3,232
Seventh Day Adventists	=	2,600
Unity Church	=	1,000
Jewish	=	895
Unitarian	=	263
United Church of Christ	=	260
Total number of church members	=	921,771
Population of state	=	2,037,000



It should be noted that the “percentage of Baptist, Catholic, etc., in the study” is based on the answer given to the church the patient said he attended. He was not necessarily a member of that church.

Considering these percentages, the “religious” background that is the most common in alcoholics is that of none. The number of patients

from Baptist backgrounds does seem high, but not significantly so considering the percentage of the State that is Baptist. The percentage of patients from Pentecostal and Catholic backgrounds does seem to be a little high.

An overwhelming majority of patients now belong to no religious group. A significant number do belong to the Catholic Church, although they do not attend on a regular basis. The number of Pentecostals also remained a little high.

Relatively fewer of the patients came from a Methodist or Church of Christ background.

2. Importance of Religion in Youth and Now		
Number of patients that felt religion was important in their youth	=	45
Number of patients that felt religion was not important in their youth	=	21
Number of patients that were not sure	=	1
Total	=	67
Number of patients that felt religion is important to them now	=	27
Number of patients that felt religion is not important to them now	=	39
Number of patients that were not sure	=	1
Total	=	67
Summary	Yes	No
Felt religion important in youth	45 (67%)	21
Felt religion important now	27 (40%)	39
3. Religious Experience		
Number of patients that felt they had had a religious experience	=	35
Number of patients that felt they had not had a religious experience	=	30
Number of patients not answering	=	2
Total	=	67
Percentage of patients that felt they had had a religious experience	=	52%
Percentage of patients that felt they had not had a religious experience	=	45%
4. Christianity		
Number of patients that felt they were Christians	=	27
Number of patients that felt they were not Christians	=	37
Number of patients not answering	=	3
Total	=	67

Percentage of patients that felt they
were Christians = 40%

Percentage of patients that felt they
were not Christians = 55%

A number of patients (14) felt they had had a religious experience (possibly felt they were Christians at one time), but did not consider themselves Christians at the present. Also, a number of patients (7) felt they were Christians, but had not had what they considered a religious experience.

Baptist

Patients with Baptist and Methodist backgrounds tended to see being a Christian more a matter of only faith in Christ than indicated by other groups. For example, in response to the question of how they felt one became a Christian, some gave such answers as:

"Believe in Jesus Christ"

"Through faith in Jesus Christ"

"Believing and accepting Christ"

However, many also gave non-specific, general type answers.

Catholic

Patients with Catholic backgrounds tended to give more general answers as:

"Believing in God"

"Faith and hope"

"Place yourself in the hands of God",

in response to how one became a Christian according to their view.

Pentecostal and Church of Christ

Patients with Pentecostal and Church of Christ backgrounds listed more work requirements associated with being a Christian. For example, the following answers were given by patients that were or at one time had been of these groups:

"By living right ..."

"Truly believing and baptism"

"By following the ten commandments"

No Religious Group

Of patients that presently attended no church several saw an element of works and human requirements being important in salvation. However, most gave "no comment" answers to the question.

5. How Patients Interpret Religion

All the patients in the group either stated they were Christians or belonged to no religious group. Thus, as might be expected, they usually interpreted religion consistently with the way

they interpreted Christianity. These interpretations are listed above.

6. Religion a Help vs. Religion a Deficit

Number of patients that felt religion
had helped them in dealing with
their drinking problem = 40

Number of patients that felt religion
had contributed to the cause of
their drinking problem = 4

Percentage of patients that felt re-
ligion had helped them in dealing
with their drinking problem = 58%

Percentage of patients that felt re-
ligion had contributed to the
cause of their drinking problem .. = 1%

Not

No Yes Decided

Felt religion contributed
to problem 63 4 0

Felt religion helped in
dealing with problem 26 40 1

Only four patients felt religion had contributed to their drinking problem. Two of these did not specify how they felt religion had contributed. One patient stated that he felt stronger faith would have eliminated this error—apparently he really felt a lack of religion was at fault. The fourth patient stated that early confusion centering around religion had contributed to his drinking problem.

Fifty-eight percent of the patients felt religion had helped them in dealing with their drinking problem. They gave varying answers as to how it had helped them, for example:

"Inspiration ... peace of mind when I go to church"

"Have to depend on something higher than myself"

"Makes you think more—gives you more confidence in yourself"

"Gives me support"

"Gives me something to look forward to"

"He (the Lord) shows me a way out"

"Gives me faith to believe the Lord can solve my problems"

"The way I was raised was rubbed off—support"

Some patients felt the support of the church in general was the thing that helped them, others felt that the guilt they felt when drinking helped to keep them from drinking more often, and

finally, a few felt their personal relationships with God was the way they had been helped.

7. Changes in religious denomination

Number of patients that changed denominations one time	= 6
Number of patients that changed denominations two times	= 1
Number of patients regularly attending Baptist	= 4
Number of patients changing from regularly attending Baptist to irregularly attending Baptist	= 8
Number of patients changing from regularly attending Baptist to none	= 7
Number of patients changing from regularly attending Baptist to Church of the Nazarene	= 1
Number of patients changing from irregularly attending Baptist to none	= 4
Number of patients changing from irregularly attending Baptist to Pentecostal	= 1
Number of patients changing from irregularly attending Baptist to Church of Christ	= 1
Number of patients changing from regularly attending Methodist to irregularly attending Methodist ..	= 4
Number of patients regularly attending Methodist	= 0
Number of patients changing from regularly attending Methodist to none	= 1
Number of patients changing from irregularly attending Methodist to Assembly of God	= 1
Number of patients changing from irregularly attending Methodist to none	= 1
Number of patients regularly attending Catholic	= 0
Number of patients changing from regularly attending Catholic to irregularly attending Catholic	= 5
Number of patients changing from regularly attending Catholic to none	= 0
Number of patients changing from irregularly attending Catholic to none	= 0

Number of patients changing from regularly attending Church of Christ to irregularly attending Church of Christ	= 1
Number of patients changing from regularly attending Church of Christ to none	= 1
Number of patients changing from regularly attending Church of God to irregularly attending Church of God	= 1
Number of patients changing from regularly attending Church of God to none	= 1
Number of patients changing from regularly attending Church of Nazarene to irregularly attending Church of Nazarene	= 1
Number of patients remaining irregularly attending Pentecostal	= 2
Number of patients changing from regularly attending Pentecostal to irregularly attending Pentecostal ..	= 0
Number of patients changing from regularly attending Lutheran to none	= 1
Number of patients that have never aligned themselves with any church	= 4
Number of patients that have changed from no religious group to irregularly attending Baptist	= 2

Most patients did not change churches, although many did no longer attend or only attended on an irregular basis a denomination they had once attended. Of the patients that changed from one denomination to another, more changed to a more legalistic type church, as from Baptist to Church of Christ or Methodist to Assembly of God. Few patients had been regular attenders in a specific church throughout life. In fact, only four had done so. They were Baptists. Only four patients listed themselves as having never attended any church (on either a regular or irregular basis) at some time during their life. Two patients with no religious training in early life later became Baptists.

The Baptists had several that changed from regularly attending Baptists to irregular attenders or not attending at all. The Baptists also lost some members to more legalistic groups. However, again the overwhelming percentage of

Baptists in the State should be considered when trying to draw a conclusion. Finally, a few Baptists remained regular members throughout life.

The trend of the Methodist patients is similar to that of the Baptist, except that none remained regular members throughout life.

Of the patients with early Catholic training all remained Catholics, but went from regular to irregular in their attendance.

Of the patients with an early training in the Church of Christ, one no longer attended any church and the other attended the Church of Christ on an irregular basis.

Most of the patients with Pentecostal backgrounds stated that they had always attended a Pentecostal Church on an irregular basis. One patient with a former Church of God (and also Church of Christ) background no longer attended any church.

8. Religion of Parents

Number of patients that remained in the same religious affiliation as their parents --- = 41 (61%)

Number of patients that listed none for the religious affiliation of their parents ----- = 2 (3%)

Of those patients listing themselves as attending no church now, they listed their parents as follows:

Baptist	= 10
(Parents attended different churches)	= 3
Methodist	= 2
Church of God	= 1
Lutheran	= 1
Undenominational	= 1
None	= 2

Of seven patients that listed parents attending different churches, three (of the patients) attend no church and four of the patients attend the same church as their mother did.

Other than the above differences in the religion of the parent and child only the following four differences were noted:

Parent	Child
Baptist	Church of Nazarene
(Mother) Lutheran	Catholic
Baptist	Church of Christ
Protestant (not specified)	Catholic

Most patients continued to attend the same church as their parents had. When the father and mother had attended different churches, the

child either ended up attending no church or the same church as that of his mother. Very few patients would list "none" for the religious affiliation of their parents.

9. Religion of Spouse

Of 18 married patients 9 (50%) attended same church as their spouse did.

Of 30 divorced patients only 11 (37%) attended same church as their former wife did.

Of 11 patients separated from their wife 5 (45%) attended same church as their spouse did.

A higher percentage of married patients attended the same church of their spouse than was found in divorce cases.

DISCUSSION

This study concerned the religious backgrounds of alcoholics. The group that was studied had the following characteristics:

About half of the patients indicated that one of their relatives had had a drinking problem also. The father was listed most often.

About one in five patients felt he had had a particularly difficult time in his young life. Again, the father was listed most often as the one responsible for this.

Two of every three patients were of middle age, and one of every two felt his drinking problem had started in young adult life.

All of the patients were males, and the whites outnumbered the blacks five to one which may not be greatly significant considering the race ratio in the area the study was done.

Sixty percent of the patients had a twelfth grade education or above.

More than half of the patients were either divorced or separated.

Most of the patients were blue collar workers, but a significant number were also white collar workers.

With a group with backgrounds as indicated above the following results were found concerning their religious backgrounds:

The religious background that was the most common in alcoholics was that of "none". Of the present religious affiliation the "none" group had grown even larger. The number of Catholics was also higher than the other groups.

The patients interpreted religion and Christianity with different views. In general, patients

interpreted Christianity in a manner consistent with the view held by their church.

Most patients felt that their religion had helped them in dealing with their drinking problem. Some felt this help was from support they had found in their Christianity, others felt this help was from an increased desire to avoid drinking because of guilt, and a few felt their personal relationship with God was the way they had been helped.

Most patients did not change churches, although many did no longer attend or only attended on an irregular basis a denomination they had once attended. Of the patients that changed from one denomination to another, more changed to a more fundamental type church.

Most patients continued to attend the same church that their parents had attended. When the father and mother had attended different churches the child either ended up attending no church or the same church that his mother had attended. Very few patients would list "none" for the religious affiliation of their parents.

COMMENT

There are several factors important in the developing of alcoholism, not just one. Religion is one factor that was considered in this study and just as one cannot point to one factor as being responsible for alcoholism, in like manner, one cannot point to one religious group as the most important in contributing to alcoholism. The graph on page 7 does indicate some trends. The lack of regular church attendance was the most impressive aspect in the life of the alcoholics.

REFERENCES

1. Nicoli, A. M., II: A New Dimension of the Youth Culture. *Am. J. Psychiatry* 131: 396-401, 1974.
2. Wilson, W. P.: Mental health benefits of religious salvation. *Dis. Nerv. Sept.* 33: 382-386, 1972.

3. Christensen, C.: Religious conversion. *Arch. Gen. Psychiatry* 9: 207-216, 1963.
4. Pattison, E. M.: Social and psychological aspects of religion in psychotherapy. *T. Nerv. Ment. Dis.* 141: 586-597, 1965.
5. Janus, S., Bess, B.: Drug abuse, sexual attitudes, political radicalization, and religious practices of college seniors and public school teachers. *Am. T. Psychiatry* 130: 187-191, 1973.
6. Allison, L.: Adaptive regression and intense religious experiences. *T. Nerv. Ment. Dis.* 145: 452-463, 1967.
7. Freud, S.: The future of an illusion (1927), in *Complete Psychological Works*, standard ed., Vol. 21. Translated and edited by Strachey J. London, Hogarth Press, 1961, pp. 5-56.
8. Freud, S.: Obsessive actions and religious practices (1907). *Ibid*, Vol. 9 pp. 117-127.
9. Freud, S.: Totam and taboo (1912). *Ibid*, Vol. 13 pp. 1-161.
10. Wilson, W. P.: The religious life of patients with affective disorders. *Dis. New. Sept.* 30: 483-486, 1969.
11. Meyerson, B. G., Staller, L.: A psychoanalytical interpretation of the crucifixion. *Psychoanalysis* 49 (4): 117-118, 1962.
12. Bergman, P.: A religious conversion in the course of psychotherapy. *Amer. J. Psychother.* 7: 41-58, 1953.
13. Bronner, A.: Psychotherapy with religious patients. *Am. J. Psychother.* 18: 475-487, 1964.
14. Gung, C. G.: *Mysterium Coniunctionis*, Vol. 14. Translated by Hull, R. New York, Bollingen Foundation, Inc. 1963.
15. Fromm, E.: *Escape from Freedom*. Rinehart and Company, Inc., New York and Boston, 1941.
16. Adler, A.: *The Individual Psychology of Alfred Adler*, pp. 460-464. Edited and annotated by Ansbacher, H., and Ansbacher, R. New York, Basic Books, Inc., 1956.
17. Koller, K. M., and Castanis, J. N.: Family background and life situations in alcoholics. *Arch. Gen. Psychiatry* 21: 602-610, 1969.
18. Freedman, A. M., and Kaplan, H. I.: *Modern Synopsis of Psychiatry*, pp. 393-400. Baltimore, The Williams and Wilkins Co., 1972.
19. Zwerling, I., and Rosenbaum, M.: Alcoholic Addiction and Personality. In *Am. Handbook of Psychiatry*, Vol. 1, pp. 623-644. Edited by Arieti, S. New York, Basic Books, Inc., 1973.
20. Kolb, L.: *Modern Clinical Psychiatry*, pp. 206-207. Philadelphia, W. B. Saunders Co., 1973.
21. James W.: *The Varieties of Religious Experience*. New York, Collier Books, 1961.



Diseases of the Prostate:

An Outline to Diagnosis and Treatment

Nabil K. Bissada, M.D., and John F. Redman, M.D.*

The prostate gland is a frequent site of disease in men. Our purpose is to briefly outline the currently accepted diagnostic and therapeutic modalities of prostatic disease for the family physician.

Inflammatory Diseases of the Prostate

The most common inflammatory conditions of the prostate are acute and chronic nonspecific prostatitis. Less commonly, the prostate is the site of tuberculosis, granulomatous prostatitis and trichomoniasis.

A. Acute bacterial prostatitis:

The onset is usually acute with fever and chills; perineal, rectal, or back pain. Urinary symptoms may be pronounced with burning on urination, frequency, urgency, terminal hematuria, difficulty on urination, and even acute urinary retention. On examination the prostate is enlarged, tense and exquisitely tender. Prostatic massage is contraindicated both as regards diagnosis and treatment, but urine obtained after rectal digital examination may show more pyuria than urine examined prior to such examination. Treatment of acute prostatitis consists of general supportive measures and a broad spectrum antibiotic. Antimicrobial therapy should be continued for ten to fourteen days. In general, acute prostatitis is easily treated and usually clears satisfactorily. The presence of a continued septic temperature in spite of treatment, especially if it persists for up to a week, associated with leukocytosis and rectal symptoms, should alert the physician to the possibility that a prostatic abscess has developed. The treatment of a prostatic abscess is surgical.

B. Chronic bacterial prostatitis:

This is the principal source of relapsing urinary tract infection in men. Some patients have asymptomatic infection but most experience varying degrees of perineal pain, low back pain, or suprapubic discomfort and irritative voiding symptoms such as frequency, dysuria and burning on urination. On examination, the

prostate may be soft or boggy, but is sometimes normal to palpation. (Fig. 1) Microscopic examination of the prostatic fluid¹ reveals evidence of inflammation with leukocytes and lipid filled

¹obtained by prostatic massage

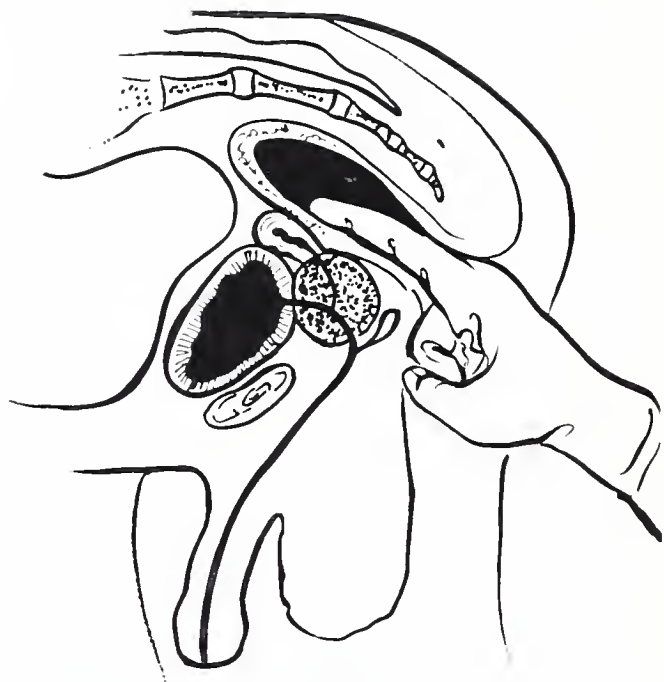


Figure 1A
Position for rectal digital examination of the prostate.

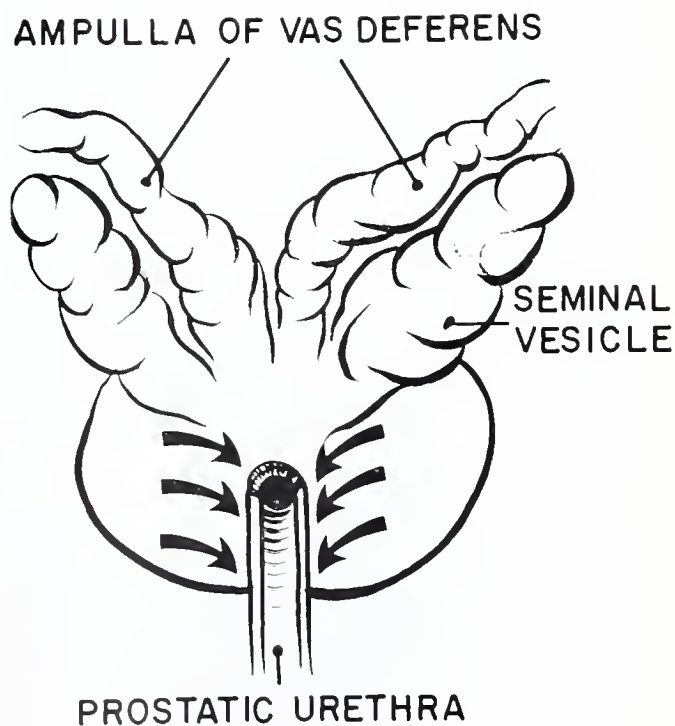


Figure 1B

Massage of the prostate and seminal vesicles. It is important after massage to express the prostatic secretions through the external sphincter at the apex of the prostate.

*Division of Urology, University of Arkansas College of Medicine, Little Rock, Arkansas.

Send correspondence to: Nabil K. Bissada, M.D., Assistant Professor, Division of Urology, University of Arkansas College of Medicine, 4301 West Markham, Little Rock, Arkansas 72201.

macrophages. (Fig. 2) Cultures of the prostatic fluid usually reveal a small number of pathogenic organisms. Medical treatment of chronic bacterial prostatitis with appropriate antimicrobial therapy is often unrewarding because of the poor diffusion of most antimicrobials from the plasma into the prostatic fluid. Some success has recently been obtained with the use of a combination of trimethoprim and sulfamethoxazole.² The usual duration of therapy is two weeks, but longer periods of drug therapy may be associated with higher cure rates. Surgical treatment is only occasionally resorted to in cases not responding to medical management.

A significant number of patients that present with symptoms and prostatic secretions identical to those of chronic bacterial prostatitis, will be found to have no pathogenic organisms on careful cultures of the prostatic fluid. These patients have chronic non-bacterial prostatitis (prostatosis). This condition is even more difficult to treat than chronic bacterial prostatitis. Many of these patients seem to have some symptomatic improvement with periodic prostatic massage.

²Bactrim—Roche
Septra—Burroughs Wellcome

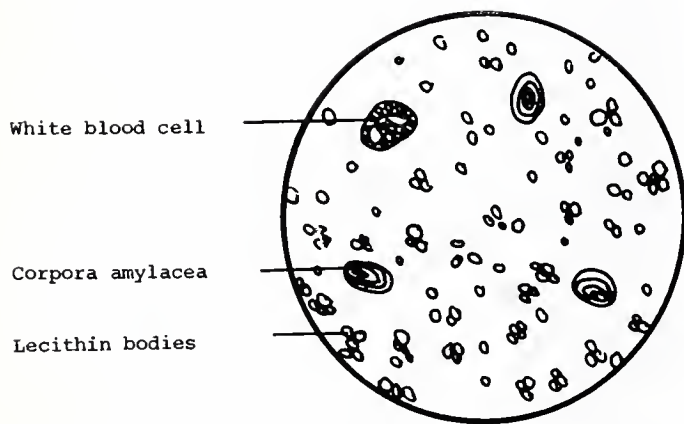


Figure 2A

Normal prostatic secretions. Only rare WBC can be seen.

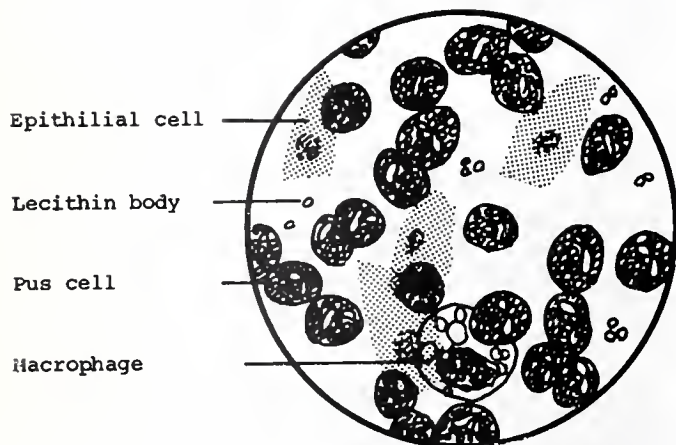


Figure 2B

Prostatic secretions in prostatitis.

Benign Prostatic Hyperplasia

This is a very common disorder and is the most frequent cause of obstructive uropathy in the male. The degree of obstruction caused by prostatic hyperplasia is not always proportionate to the extent of prostatic enlargement. With increased resistance to urine flow, the bladder undergoes compensatory hypertrophy "trabeculation". Diverticula may form as a result of increased intravesical pressure. Infection and stones may occur, and the upper urinary tract may secondarily become dilated or infected.

The symptoms of prostatic hyperplasia are referred to as "prostatism". These include frequency, nocturia, hesitancy in starting urination, diminution in the size and force, and interruption of the urinary stream, terminal dribbling, and acute urinary retention. If infection supervenes, these symptoms are exaggerated. Further, burning on urination, foul-smelling cloudy urine, fever and chills may occur. In advanced cases, uremia may develop. Gross or microscopic hematuria may occur in about one-fourth of all patients with prostatic hyperplasia. However, the possibility that hematuria may be due to an associated urinary tract malignancy should not be overlooked.

On examination the prostate is usually enlarged and firm in consistency, although sometimes an obstructing prostate may feel normal to palpation.

A rapid assessment of the degree of obstruction may be accomplished by watching the patient void followed by an immediate residual urine determination. Evaluation of the urinary tract should include examination of the urine, renal function tests and excretory urography (I.V.P.).

The treatment of benign prostatic hyperplasia is surgical. Often the family physician wonders when to send the patient for urological evaluation. It should be emphasized that it is the severity of obstruction and not the size of the prostate gland that determines the need for surgical treatment. Thus, the occurrence of acute urinary retention, presence of moderate to severe symptoms of prostatism, high residual urine (more than 30-60 ml), upper urinary tract changes; and endoscopic demonstration of significant obstruction and back pressure changes, are considered indications for surgical management. In the patient who presents with renal insufficiency or with acute urinary retention, a

temporary indwelling urethral catheter is indicated. Some of these patients may develop post-obstructive diuresis after the obstruction is relieved by catheterization.

Prostatectomy may be accomplished by transurethral resection or by open enucleation of the prostate. It should be remembered that the procedure is not a total prostatectomy (Fig. 3), and prostatic carcinoma can develop in the remaining prostate.

Carcinoma of the Prostate

This is a very common malignancy, constituting the second most common cause of cancer deaths in the United States. The natural history of this cancer is extremely variable. While some tumors behave as active carcinoma and eventually kill the patient, others are found incidentally at autopsy. Many clinically manifested cancers progress slowly for some years, especially under hormonal control, but eventually break out of control with rapid progression.

Early in the course of prostatic carcinoma, symptoms may be entirely absent and the diagnosis may be suspected on routine rectal examination. Later obstructive symptoms similar to those of prostatic hyperplasia, or symptoms of metastatic disease, or both may develop. Back or hip pain is a common symptom due to metastasis to pelvic bones.

A palpable nodule in the prostate is usually the earliest local finding. Almost half of such nodules are found to be malignant on microscopic examination. Biopsy is essential for a definitive diagnosis to be made. Evaluation of the patient's general condition and renal status as well as the stage of tumor extension are all important in deciding the appropriate manage-

ment. Staging depends on all the available clinical information including physical examination, laboratory and radiological studies. The presence of a hard, nodular, fixed prostate, or extension of induration outside the confines of the prostate signifies advanced local extension. Elevated serum acid phosphatase enzyme usually indicates extraprostatic tumor extension. Bone metastasis are usually evident as osteoblastic lesions (Fig. 4), or less commonly as osteolytic lesions. Technetium phosphate bone scanning may detect metastasis not detected on plain radiography. The intravenous urogram may show ureteral obstruction from local or nodal extension of prostatic carcinoma. Lymphangiography may be helpful in detecting lymphatic involvement.

Management of prostatic carcinoma is outlined in Table I. Usually radical prostatectomy is reserved for localized carcinoma in patients with reasonable life expectancy. Unfortunately, most patients present with advanced disease so that only about ten percent of these patients are candidates for radical surgery. Radical radiotherapy gives less cure rates than radical surgery

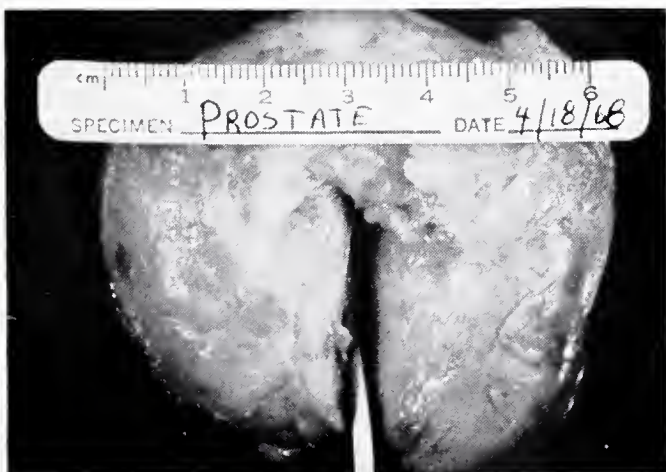


Figure 3
Benign prostatic hyperplasia: Specimen removed by open enucleation prostatectomy.



Figure 4
Multiple osteoblastic metastatic lesions from carcinoma of the prostate.

TABLE I
MANAGEMENT OF PROSTATIC CARCINOMA

- | | |
|-----------------------|---|
| 1. Surgical: | Radical prostatectomy
Palliative: TURP |
| 2. Radiation therapy: | Radical
Palliative |
| 3. Endocrine therapy: | Bilateral orchiectomy
Estrogens
Anti-androgen therapy
Bilateral adrenalectomy
Hypophysectomy
Medical adrenalectomy
(steroids) |
| 4. Chemotherapy | |

but may be used in patients who refuse surgery or those with slight local extension. Transurethral resection is only palliative to relieve obstruction.

Hormonal therapy usually affords excellent temporary relief in advanced cases of prostatic carcinoma. Bilateral orchiectomy or estrogens (1-2 mg. Diethylstilbestrol daily) are the most common and effective forms of hormonal treatment. Because of cardiovascular complications of hormonal treatment, it seems justifiable to withhold such treatment until there is evidence of extension or metastatic disease.

The Prostatic Nodule

Often, the physician is confronted by the finding of an area of induration confined to the prostate in an elderly male. Almost 50 percent of such nodules are found to be malignant when examined microscopically. Even the most experienced examiner may have difficulty differentiating a benign from a malignant process in such instances, and therefore, biopsy is almost always indicated.

Summary

The prostate gland is a frequent site of disease in the male. Most cases of prostatitis are treated medically. Acute prostatitis responds more readily to antimicrobial therapy than chronic prostatitis. Benign prostatic hyperplasia is the most common cause of obstructive uropathy in men. Surgical management is resorted to if significant obstruction is demonstrated. The presence of a prostatic nodule in an elderly male should arouse the suspicion of malignancy. Biopsy is indicated to reach a definitive diagnosis. Management of patients with prostatic carcinoma should be individualized.

Acknowledgement: We wish to acknowledge the assistance of Mr. Jack Diner and Mrs. Mary White in the preparation of this article.



Education of the Juvenile Diabetic

Diana Thompson, R.N., B.S.N.,* and M. Joycelyn Elders, M.D.**

As a Pediatric Nurse Practitioner at the University of Arkansas College of Medicine, part of my responsibility is to do diabetic teaching with hospitalized diabetic patients. I also follow these patients after their hospitalization when they return to clinic. I am also available to do teaching with patients seen in the clinic with whom I have not previously worked.

When I work with a diabetic patient, I work closest with the person who will take most of the responsibility for the diabetic's care. This person may be the diabetic himself, a parent, or someone else in the home. In this paper I may refer to the "patient's" need to learn something but I use "patient" to represent the person most capable of assuming the responsibility.

When I first began working with pediatric diabetics, I found myself frequently frustrated because the patient was not learning what I thought he needed to learn about his management. I realized that I was trying to fulfill my own needs as the teacher rather than focusing on what the patient was capable of learning. This is an important basic point in being successful in diabetic teaching: assess the level at which the diabetic and his family are able to perform and then teach to that level. Recognize, too, that the child's level will be different from the parent's level and to vary your teaching according to this. The level of performance may change once the patient works through some of his anxiety about the disease and as he becomes older.

In this paper I will include most areas that can be covered in diabetic education, but I do not teach all areas to all diabetics.

Before initiating any phase of educating the diabetic, try to establish some kind of rapport with the patient and any family members involved. It is usually easy to establish a relationship with the diabetic's family because they have

many questions to ask and you are there to answer them. Unfortunately, this is not always the case with the patient. He may have the same questions but there are many other things happening to him that he is more concerned about. In general it takes much longer to establish rapport with the patient than with the family.

During the first visit, it is not necessary to answer most of the questions the family ask when they ask them but it is important to go ahead and let them ask the questions. Explain to them that most of the questions they are asking will be answered as the teaching progresses and that you are not avoiding answering them but it would be better to wait on specific answers until they have a better understanding of diabetes.

There are some questions that do need to be answered immediately because they initiate acceptance of the disease. These particular questions also frequently provoke anxiety about managing the diabetic at home. Some of the common questions that need answering initially are:

- 1) Can my child take the pill? (no, because they don't work in children).
- 2) Will my child need to have special food? (no, he and the rest of the family can eat the same food prepared in the same way for everyone. Some changes may have to be made in the way the food is prepared but it will be to the advantage of the whole family).
- 3) Will he have to take so many shots all the time? (Probably not, one in the morning is usually sufficient).
- 4) Will he always have to take shots? (yes, probably one a day for the rest of his life).
- 5) Can he go back to school? (definitely).
- 6) How long will he be hospitalized? (About 10-14 days).

As you can see, answers to these questions should be short and factual. There is need to elaborate. If the answers do make the patient or family more anxious, reassure them that you will go a

*Pediatric Clinics Nurse Practitioner, University of Arkansas College of Medicine.

**Associate Professor, University of Arkansas College of Medicine, Professional Advisory Committee of American Diabetes Association—Arkansas Affiliate.

Department of Pediatrics, University of Arkansas College of Medicine, Little Rock, Arkansas.

Mailing address: M. J. Elders, M.D., 4301 West Markham, Little Rock, Arkansas 72201.

Studies at the University of Arkansas College of Medicine were supported by USPHS grant AM 15901 and CA 13907.

step at a time with their education and not rush into anything.

Each person who teaches *diabetic theory* has an individual style or approach. Rather than explain my style, I will list some general guidelines I have found helpful to follow.

1) It is mandatory that the person doing the diabetic teaching have a thorough understanding of diabetes. This is necessary not only to be able to answer questions but to translate medical terms into usable language that the patient can understand.

2) A second requirement is a good book for the patient to read and the teacher to teach from. I use *An Instructional Aid on Juvenile Diabetes Mellitus*. I loan a copy to the patient for him to use during the hospitalization and then give him the information on where to buy one.

3) The patient should feel free to ask questions at any time. Stress that no question is too simple to ask.

4) Encourage the patient to read ahead in whatever book he uses and learn what he can. Let him know that you don't expect him to understand everything he reads and have him mark areas that confuse him. He should understand that everything he reads will be reviewed.

5) Allow plenty of time for questions and answers at the end of each session. This is where I get most of my feedback and can assess how well the patient is learning and how effectively I am teaching.

6) Don't ever skip over an area just because the patient says he understands it. There is always room for clarification in diabetes.

7) Don't be afraid to get "too basic" when explaining a concept. This applies to teaching anyone, not just very young children. For example, the most basic explanation I use is with the preschool diabetic. In order to explain why he needs to have a shot every day, I tell him that his pancreas (point to location) is broken and it does not do what it is supposed to do, make insulin. To keep from getting sick he needs to have insulin and the only way to get it is by taking a shot every day.

8) Stress that diabetics are not sick people once they are controlled. Once a diabetic is

controlled he can lead a normal active life and this is the goal of diabetic teaching.

9) Review from the beginning after each session. This serves as reinforcement and gives another opportunity for questions to come out.

10) When working with previously diagnosed diabetics whom I have not had contact with before, I assume that they know nothing. I explain to them that I do not know what they have been taught so I prefer to start from the beginning rather than skip over anything. So far I have not had a patient or family member disagree with this approach.

11) Use lots of praise as positive reinforcement. Let the patient know that you know he is trying to learn, especially if he is having a hard time.

12) Be honest with the patient if you do not understand a question, if you do not know the answer or if you are getting frustrated with him. If he is acting bored or tired, acknowledge this and find out how you can make the sessions more interesting for him.

13) Areas to cover when teaching diabetic theory:

a. What causes diabetes? Heredity can be explained here but I don't recommend it unless the family is ready for it.

b. What happens when there is not any insulin? Sugar cannot reach cells to provide energy so sugar builds up in blood. Once the sugar begins building up in the blood, kidneys can no longer handle such a large amount so it is lost in the urine.

c. Why urine checks are done and what the values mean—since sugar is lost in the urine when there is not enough insulin in the body, checking the urine for sugar is a good indicator for deciding how much more or less insulin is required. Each urine check has a value that can be measured and the measurement is then used to decide what to do about the insulin.

d. How energy is maintained when there is not enough insulin—fat is used to produce energy with the consequent production of ketones. The ketones are undesirable because they lead to ketoacidosis and make the patient very sick. Symptoms can be given here.

e. Difference in juvenile onset and adult onset diabetes and differences in treatment.

f. Different types of insulin and their action. Concentrate on kind patient is to use.

g. How physical activity influences control and insulin requirements. Stress that no activity is limited but some activities need supervision such as hiking, overnight camping, etc.

Urine checks are absolutely essential to maintain any kind of control in the diabetic and he needs to learn to do them as soon as possible. During his hospitalization is the optimum time for him to learn how to do them because he will be under close supervision for a relatively long time. Instruction should begin once he is over the acute phase of his illness and urine checks are done at regular intervals. Areas that need to be stressed are use of the double voiding method and why it is important to double void, correct technique for doing urine checks, recording the urine checks and why this is necessary, and times that urine checks are to be done and why in relation to insulin.

Teaching the patient to use the double voiding method is best done by having him do it and point out what he has done. Have him void 20-30 minutes before the urine check is to be done and discard the specimen, then have him drink a glass of water and void again as soon as he can. Once he has collected the second specimen, point out to him the sequence he has followed and reinforce it by saying that he collected the specimen in the correct way. I usually wait until after he can do the urine checks accurately to explain why double voiding is necessary.

Observation of the *correct technique* for doing urine checks and practice with supervision usually are all that are necessary to teach the diabetic to do his urine checks. I have found that Clinitest and Acetest tablets are the easiest supplies for the child to handle and accurately read the results. Demonstrate to the patient how to do the urine checks and then have him demonstrate back. Do this several times until you are sure his technique is correct. Instruct the patient that he does not have to check for acetone unless his sugar is 3+ or 4+ but he does

need to check for acetone while hospitalized so that he will have practice in reading the results.

Each time a urine check is done, even before the patient learns to do them, explain the results to him. Use simple terms and be careful to avoid using "good" or "bad" to describe the values. Be factual about the values by saying, for example, "The urine check you just did was 4+ for sugar and negative for acetone. This means you are losing a lot of unused sugar in your urine, but no acetone is being spilled." This is helpful in familiarizing the patient with the commonly used terms.

Once the patient begins to do his own urine checks he also needs to learn to record them. Stress keeping an accurate record because the urine checks are the basis for regulating the insulin dose at home. A notebook of some sort is easier to keep up with than separate sheets and provides a long running reference the patient and medical personnel can look back over.

If the child is capable of doing his own urine checks, make it his responsibility to do them as long as he is in the hospital. This will help him establish the habit of doing his urine checks at a regular time once he gets home and will provide him with supervised practice. Have the urine check supplies readily available for the patient to use either at the bedside or in an easily accessible location once he is ambulatory.

After the child is discharged he will probably just do 2 or 3 urine checks a day. Explain the change in number of checks done in relation to the action of insulin. If a reason for the change is not given, the child may decide to leave out more urine checks on his own.

Instruct the child's parents to periodically check the accuracy of the child who does his own urine checks. I consider accuracy to have three meanings: accuracy of technique, accuracy in recording, and accuracy in reference to what is used to do the urine check. Obviously, the technique and recording need to be correct for the urine check to be of any value. The third area, what is used to do the urine check, can be misleading. Some children equate a negative urine check with getting better because the insulin dose is reduced. A child might continue to reason that having all negative urine check would eventually lead to reducing the insulin

dose to zero and no more shots. To achieve this he might either falsely record the urine check as negative or use tap water instead of urine to do the check which would produce a negative check. To prevent this, someone else needs to do a simultaneous urine check once or twice a week along with the child. The two results should be compared for accuracy of the individual check and in relation to previous checks done at the same time of day.

The graphs and pictures used in *An Instructional Aid on Juvenile Diabetes Mellitus* are most helpful in explaining why urine checks are done at specific times in relation to insulin. It also has a good section illustrating the need to use the double void method.

When teaching the diabetic *how to give insulin*, emphasize that at least one shot of insulin a day will be required for the rest of his life. Start this from the very first day. At least two people in the family need to learn to give the insulin, the patient, if he is capable, and another family member.

If the child is to learn how to give the injection, the situation demands two things other than equipment, time and patience. The typical child does not want to stick a needle in his leg and frequently refuses to do so. In cases like this you have to wait until he is ready and sometimes make him give the shot when he does not think he can.

The following are some guidelines I have found helpful:

- 1) Have whoever is giving the patient his insulin explain what the sequence is each time a shot is given. Start this as soon as the patient is out of acidosis and can comprehend what is happening. Use simple factual statements for explanation. Do the entire procedure, including drawing up insulin, in front of the patient.

- 2) Let the patient take an active part each time insulin is given. Have him choose site, clean area, draw up insulin, etc. Go a step at a time.

- 3) Once you have decided to let the patient give his own injection, have him practice with an orange. He will need an orange, several alcohol swabs, several insulin syringes, a bottle of sterile water, and written instructions. Dem-

onstrate the whole injection routine several times and have him demonstrate back. When you are satisfied that he can do the routine let him practice on his own. Leave the written instructions with the patient so he has something to refer back to. I use the following instructions for using disposable syringes:

- a. Remove bottle from refrigerator (for home use).
- b. Assemble equipment, insulin, 2 syringes with needle attached or one syringe with an extra needle, alcohol swab, record sheet, pencil.
- c. Gently roll insulin bottle between hands until all white powder is mixed. **DO NOT SHAKE TO MIX.**
- d. Clean top of bottle with alcohol swab.
- e. Draw air into syringe equal to amount of insulin to be given.
- f. Remove needle cap, stick needle into rubber stopper in bottle and inject air into bottle.
- g. Withdraw amount of insulin to be given from bottle taking care not to have any air bubbles in syringe and remove needle from bottle.
- h. Replace needle cover on syringe.
- i. Select injection site and clean with alcohol swab. Leave swab close to injection site.
- j. Remove needle cap, pinch up skin slightly at injection site, and insert needle into skin at 90° angle.
- k. Aspirate for blood. If none appears, give shot and then remove needle at same angle as it was pushed in while covering site with swab. **IF BLOOD APPEARS IN SYRINGE, DO NOT GIVE SHOT.** Remove needle from skin and start from step (j).

- l. Either break or bend needle of syringe and discard. Replace insulin in refrigerator.

Getting the child to give his first injection is probably the hardest part of diabetic teaching. Again, time and patience are essential factors. It may take a half dozen attempts to get him to stick the needle in. Positive reinforcement is also very important.

Begin by telling the patient you will be there for his next shot and wait him to *try* to give it. Stress *trying* rather than *making* him give it. Trying is easier to look forward to than having to give the shot. Take all the equipment into the room and have the patient do everything himself up to giving the injection. At this point, if the child is not confident that he can give the injection, it is indicated by shaky hands, perspiring, crying or some other outward sign. Reassure the child that he can take his time and avoid rushing him. Have him stop here and relax by taking some deep breaths. This is a good time to have him tell you what he is going to do, step by step, to finish out the procedure.

When the child has calmed down tell him it is time to go ahead. If he refuses, ask him just to try and let him know that you think he can do it. Give the precise instructions on how to continue. Ask the child to just rest the needle on his leg for a minute without moving it and assure him that it can just stay there until he can relax. For many children just getting the needle close to the skin is the most difficult part. It may be helpful to put your hand on his to get the needle on the skin but DO NOT push it in yet. Have the needle at a 90° angle to the skin. If the child is fairly calm start urging him verbally to go ahead and push the needle in. Tell him that the only part that hurts is breaking the skin, then the hard part is over, etc. Stay calm but encouraging. If the child is not frightened, keep your hand on his and help push the needle through the skin. If this works then stop here, point out that the needle is in and have him relax for a few seconds to be sure he doesn't react by accidentally pulling the needle out. After he relaxes be sure the needle is in all the way and let the patient finish out the procedure. Then, even if you had to help him, praise him to let him know how well he did, etc., and ignore the fact that you helped him.

Physical closeness may be helpful with a child such as sitting next to him on the bed or right in front of him if he is in a chair. Use praise lavishly during the procedure and avoid using negative phrases. Use excellent or perfect instead of OK or good and say he is not quite right instead of wrong.

Teaching a family member to give the injection is usually much easier than teaching the

child. That person should observe how it is done, practice with an orange and then give the shot. Provide her with several opportunities to give the shot in the hospital before being responsible for giving the shots at home. Again, written instructions are helpful for her to refer back to.

Rotation of injection sites must be practiced by the nursing staff and stressed to the patient from the first injection. Record the site used along with the medication record in the hospital and at home, too. Especially stress the use of the abdomen and back as injection sites in addition to the arms and legs.

I prefer the 90° angle for giving subcutaneous injections because there is less chance of giving the insulin too shallowly. Also, children are more accurate holding the needle straight up and down than at an angle.

Within reason, the specific time that insulin is given at home is not as important as giving it at the same time every day. Stress a regular schedule each morning in the order of doing the urine check, giving insulin and then eating breakfast.

Insulin reactions are probably the most troublesome part of being a diabetic but they are an important aspect that the diabetic needs to learn about. The best way to illustrate to the patient what an insulin reaction is like is to let him have a mild reaction while he is hospitalized and under constant supervision. If this does occur then use it as a teaching tool.

It is not necessary for the very young diabetic to understand what an insulin reaction is called, what its cause is, or how to treat it. All he needs to know is that if he feels sick or even feels "funny" he needs to tell a grown-up, preferably whoever takes care of him, about it. If he is capable of understanding the symptoms, then explain them to him. Instruct the parents of the young diabetic to let the other neighborhood mothers know that the child is diabetic so he will be a little more protected when he is away from home. It is also important to instruct all diabetics to wear some kind of diabetic identification in case they do run into problems away from home.

As the diabetic gets older he needs to be given more information about the cause of insulin

reactions and how he can treat them himself. Cover the types of insulin and peak action in relation to diet at this point. Explaining about the peak action of insulin helps the child understand why he is more likely to have an insulin reaction at certain times.

Once the diabetic is capable of recognizing the symptoms of an insulin reaction, teach him how to treat it by eating something sweet. Stress that an insulin reaction can happen at any time so the child needs to have some candy with him at all times. Lifesavers or cellophane wrapped hard candy are the easiest for a child to handle. Instruct him to chew the candy quickly rather than suck on it and to eat several lifesavers or pieces of hard candy. There is one other thing that is an important part of treating an insulin reaction in any age diabetic and that is to instruct the diabetic to *ALWAYS TELL SOMEONE* he is having an insulin reaction. This is especially a necessity when the diabetic is away from home or by himself. Also, teach the parents to treat an insulin reaction even if they are not sure a reaction will occur.

To help the patient anticipate and prevent insulin reactions in relation to physical activity, instruct him to eat an extra snack prior to any unusual or strenuous exercise so he won't run the risk of lowering his blood sugar.

Regulating the insulin dose at home is mandatory to maintain good control. The diabetic or the parents are the logical people to do this because they live with the disease daily.

The basis for regulating the insulin is a good understanding of what urine checks mean and how to interpret them. If the patient does not understand the theory, he tends to juggle the insulin daily without getting an overview of everything that might be contributing to the situation. For example, he might have a negative afternoon urine check and decrease his insulin dose the next day. This would not be valid if he had skipped lunch or his afternoon snack. With the urine check value as a starting point, stress looking at the whole day's activity before changing the insulin dose.

After the basic theory and interpretation are taught, the patient needs a specific routine to follow to increase or decrease the insulin dose. The children at UAMS are taught to change the

insulin 2 units or 5-10% at a time using the afternoon urine check as the point of reference for NPH.

Warn the patient that during the initial regulation at home, a daily reduction of insulin is common because of his increase in activity. Teach him that once the dosage has stabilized, watch for a pattern over at least two days before changing the dose again. This helps prevent unneeded insulin juggling and demonstrates how well he understands the meaning of urine checks.

Initially I use a list of fictitious urine check results for the patient to interpret and use to change the insulin dose, as shown below:

Day	Insulin Dose	Urine Check	New Dose
Mon.	20 u	4+ Sm.	22 u
Tues.	22 u	4+ Sm.	24 u
Wed.	24 u	4+ neg.	26 u
Thurs.	26 u	3+ neg.	26 u
Fri.	26 u	neg. neg.	24 u
Sat.	24 u	2+ neg.	24 u

When the patient decides on the insulin dose, have him explain how he arrived at his decision. Using this feedback technique lets you know if he understands what he is doing.

Once the patient is able to interpret the practice urine checks, another phase of his responsibility begins. It is at this point that he begins to interpret the urine check results that he actually does in the hospital. This has two purposes: first it gives the diabetic the opportunity to practice in a real situation without having to take the ultimate responsibility for control, second, this opportunity will help lessen the anxiety that normally arises once the child does go home and all the responsibility this involves.

Before trying to teach the diabetic to regulate his insulin, be sure that he can add and subtract by 2. If the patient or family cannot handle the responsibility, then perhaps the public health nurse can help in the situation.

Good general health and hygiene habits should be taught to all diabetics with emphasis on particular areas. The following are some general guidelines:

1) Footcare cannot be overemphasized. Going barefoot should be discouraged because of the potential for cutting the feet and creating a site

for infection. The diabetic needs to keep his feet clean and dry. Excessive perspiration is a problem with many diabetics and in regard to foot care, instruct the child to wear soft absorbent socks with all shoes including tennis shoes. Light colored socks are preferable. The nails should be cut straight across to avoid ingrown nails. The best time to cut nails is right after a bath because they are softer. Shoes should be correctly fitted and kept in good repair to prevent blisters and possible infection.

2) Diabetics especially should be warned not to scratch or pick at bites, scabs, or pimples.

3) Caution against use of irritating topical medicines such as iodine on cuts. Clean cuts with soap and water. Air exposure is good for healing unless the cut can be easily contaminated, in which case it should be kept covered.

4) Keep immunizations current. Stress that it is much easier to prevent the usual childhood illnesses than to re-regulate the diabetic after he has been sick.

5) Remind the family to have the child's vision tested regularly. Explain that doing this can help detect changes in vision that might be a result of the diabetes. Stress that visual problems are a common part of the diabetic process and if the child does complain about not being able to see well, report this to his doctor.

6) Do not use home remedies of any kind unless approved by the doctor.

7) The diabetic needs to know that the healing process is sometimes slower and infection is harder to treat than in non-diabetics. Instruct them to tell the doctor if a sore is slow to heal.

8) Encourage regular dental check-ups.

There are several *common problems* that arise, especially with new diabetics.

I have mentioned the acute anxiety that most parents and some of the patients go through. This anxiety may be due to a variety of causes and, if possible, the specific cause needs to be uncovered to alleviate the stress. The health team needs to acknowledge the presence of the anxiety and let the patient know they understand and accept it before very much learning can take place. Some of the common causes of anxiety are unfamiliarity with the disease, know-

ing another diabetic and the problems encountered, especially if he is difficult to control, the hospitalization process, separation of child from family, guilt feelings about not recognizing symptoms earlier.

Another problem you might encounter is having another diabetic in the family who lives at the same residence as the patient. If the other diabetic also takes insulin, find out what kind of insulin he uses. If it is different from the patient's, stress that the patient must have his own bottle of insulin and the danger of giving either person the wrong insulin.

A third problem area is how the parents handle the diabetic child. I do not attempt to play the therapist's role and give emotional counseling, but I do point out some common pitfalls to avoid. One is to *NEVER* use the insulin injection as a threat or form of punishment. Another area to avoid is being too strict or too lax with the child in regard to establishing a routine at home. It seems to be most common for parents to go overboard about diet. Warn them that there will be occasional food binges and days when the child will refuse to eat. Point out that the parents should not use diabetes as an excuse to restrict the child from certain activities such as sports in school. If they are concerned over particular activities, a simple explanation and reassurance that sports are good for the child suffices. Some parents will not let their diabetic child become independent and they tend to use their child's disease. If this is the case, then counseling is indicated for parents and child.

A fourth problem is with the diabetic who is of school age and will return to school soon after discharge. Parents ask how to handle this and what they should tell the school personnel. I have written a general information letter to be sent to the school principal, health nurse, and all the teachers involved with the child. I also send a copy to the public health nurse along with a referral so that she will be aware of the information that has been sent to the school. It is important to let the patient read the letter himself and explain its necessity so that he will not feel left out or that he is being labeled in any way. The letter is a way to alert the teachers of the child's disease and hopefully prevent labeling the child as disruptive when he cannot

Reference Chart of Symptoms of:
WHEN YOUR SUGAR IS TOO LOW

BECAUSE YOU

1. MISSED A MEAL
2. TOOK TOO MUCH INSULIN
3. EXERCISED ESPECIALLY HARD

YOU NOTICE FIRST

1. HUNGER
2. SHAKINESS
3. SWEATING
4. HEART BEATING FAST
5. NEGATIVE SUGAR IN URINE

TAKE CANDY, LUMP SUGAR,
ORANGE JUICE. IF
REPEATED CALL DOCTOR.

YOUR FAMILY NOTICES LATER

1. TALKING OUT OF YOUR HEAD
2. ACTING STRANGELY
3. CAN'T BE WAKENED

GIVE YOU SUGAR OR "INSTANT
GLUCOSE." IF NO HELP,
GO TO HOSPITAL AT ONCE

WHEN YOUR SUGAR IS TOO HIGH

BECAUSE YOU

1. SKIPPED INSULIN
2. HAVE ANOTHER ILLNESS
3. ATE BADLY

YOU NOTICE FIRST

1. THIRST
2. LOTS OF URINE
3. POSITIVE SUGAR IN URINE

CALL DOCTOR IF THIS CONTINUES

YOU NOTICE LATER

1. NO APPETITE
2. NAUSEA AND VOMITING
3. SHORT OF BREATH
4. POSITIVE URINE &
ACETONE IN URINE

CALL DOCTOR AT ONCE

YOUR FAMILY NOTICES

1. YOU CAN'T BE WAKENED

TAKE TO HOSPITAL AT ONCE

control his behavior due to an insulin reaction. A copy of the letter and a quick reference chart follow.

"Where can we get supplies?" is a frequent question from families of new diabetics and they are often asking how can they afford supplies. Many times the stress from worrying about being able to afford the supplies is so great that it inhibits their learning, so it is important for the nurse to be aware of some of the available resources.

A helpful resource is the Crippled Children's Service (CCS). CCS may pay for or supply insulin, syringes, urine test supplies, clinic visits and hospitalization. To apply for CCS the parents or guardian must go to their local Welfare Office, present their most current statement of income (W-2 form), and tell the welfare office person they want to apply for CCS aid because their child is diabetic. The CCS office will then notify the parents of what else they need to do. CCS covers children up to 21 years of age and judge if cases qualify by financial need. The parents need to be told about applying for CCS as soon as the diagnosis of diabetes is made. The application may take several weeks to process but it is retroactive to the date of application which frequently includes the initial hospitalization.

A child that is covered by AFDC payments from welfare is automatically eligible for medic-aid. Medicaid will help pay for prescription drugs and some other health care needs.

Letter Sent to School and Teacher of Child With Diabetes:

Dear Sir:

This letter is in regard to _____ who is a student in your school and was recently treated at the University Medical Center for diabetes. _____ has started taking insulin injections which will be required daily from now on. My purpose in writing is to supply you with some information on what a diabetic might require should any problems with the disease arise during the school day.

The most common problem a diabetic will have is known as an insulin reaction. This usually occurs during mid-morning or early afternoon or after a prolonged amount of exer-

cise. Insulin reactions occur because there is too much insulin in the body at a particular time and not enough sugar in the body at the same time. This is usually caused by either not having had enough to eat or by an unusual amount of exercise that uses up the sugar. The symptoms of an insulin reaction are fairly easy to recognize and treat; they include dizziness, shakiness, sudden hunger, sleepiness, blurred vision, fast heart beat, or a sudden personality change such as laughing or crying inappropriately. The diabetic might describe himself as feeling drunk. There may be a staggering walk or a glassy-eyed stare. Frequently a young child will merely say "I feel funny." A statement like that should be taken seriously from a diabetic.

Should a teacher suspect that an insulin reaction is about to occur, the treatment is very simple; administer a quick-acting source of sugar immediately. This can be done in a variety of ways including a cold drink, fruit juice with 2 teaspoons table sugar added, a candy bar, several pieces of hard candy or simply give the child a couple of teaspoons of table sugar. After having something sweet, the student should feel normal within 15-30 minutes. If he is still showing symptoms of a reaction, then repeat the treatment. If the second treatment does not clear up the reaction, then the child needs to be seen by a doctor as soon as possible. If an insulin reaction goes untreated it could lead to unconsciousness, coma, and convulsions so you can see how important quick recognition and treatment are. Also, don't be afraid to treat a suspected insulin reaction because even if the student does not actually have one the added sugar won't be harmful for that short period of time.

The student's parents should be notified if an insulin reaction occurs. If the reaction symptoms clear up without trouble then there is no reason the student cannot return to class after a short rest.

Exercise is good for and should be encouraged in diabetics. This includes physical education classes. Should the exercise planned for the day be prolonged or particularly strenuous then the student might require an added source of energy prior to the exercise in order to prevent an insulin reaction. The energy source could be a glass of milk, some crackers, or a piece of fruit.

Many diabetics need to urinate more frequently than non-diabetics and this needs to be taken into consideration. Some diabetics need to do urine checks around lunch time and will need to be excused for that purpose. We encourage using the double voiding method for accuracy. This requires that the child urinate 30 minutes prior to the time that the urine check is to be done and then drink some water. Then about 30 minutes later he will urinate again to do the actual urine check.

In the past, diabetics were put on a strict diet that was difficult to prepare and impossible to follow away from home. The way the diet is handled now is much easier and more realistic. Many diabetics can continue on a regular diet with the exception of limiting the intake of concentrated sweets such as candy, cake, etc. Others are more limited in that they are allowed only a certain balanced amount of carbohydrates, fat, and protein and this has to be evenly distributed throughout the day. Even with the more severe restrictions most diabetics can eat food prepared by the school cafeteria as long as the amount they eat is in the right proportion.

Frequently a diabetic requires extra snacks. The student's mother should notify the school if this is necessary. The snacks might be required

in mid-morning or mid-afternoon. They are an important part of the overall regulation and treatment of diabetes.

Many diabetics, especially teenagers, have a difficult time accepting their disease. Many times they will refuse to talk about it and certainly don't want friends to know about it. They also tend to act out inappropriately as a means of letting out hostility and frustration regarding the disease. It is at times like these that it's especially important for family and friends to be supportive of the student and as understanding as possible.

In case a student requires further hospitalization during the school year, we do have a full time teacher available. Her name is Mrs. Patty Dillaha. If the student's assignments could be sent to her in care of the University of Arkansas for Medical Sciences, she would be able to help him continue with his work while in the hospital.

I have enclosed a reference chart that gives the symptoms of an insulin reaction and treatment. This will probably be easier to refer to in a hurried situation.

If you have any questions about working with a diabetic student, please contact me.

Sincerely,



PAINFUL THUMB

**"Effective treatment must be preceded
by a correct diagnosis."**

Kenneth G. Jones, M.D.*

This complaint is encountered most frequently in the female who is beyond middle-age. As a rule, a slowly progressive limitation of motion associated with increasing discomfort has been observed. The patient is seldom able to identify one episode of trauma as the causative agent. On occasions both thumbs are involved.

Questioning of the patient as to the exact location of the pain, along with purposeful palpation of the thumb by the examiner, will in most instances disclose that the source of the complaint is located either on the volar aspect of the thumb just proximal to the metacarpal-phalangeal joint or at the base of the thumb, i.e., in the metacarpal-carpal articulation. Once the examiner has specifically localized the area from which the patient's discomfort is arising, the diagnosis in most instances can readily be made.

When the complaint arises just proximal to the first metacarpal head, at the level of the web space, further questioning will often reveal that the patient also experiences a true locking or a locking sensation of the thumb on flexion and/or extension. That is, the direction of pull cannot be reversed without a snapping or a jog-like motion of the thumb which may be associated with pain. Occasionally, the patient is able to recall recent repeated use of some tool or device, which applied greater than usual pressure in the area that is now painful. Firm pressure by the

examiner over the palmar aspect of the thumb just proximal to the metacarpal head will reveal a painful fusiform swelling of the tendon. As the thumb is actively flexed and extended proximal and distal migration of this enlargement can be detected. It may be possible for the examiner to determine at what point in the excursion of the tendon it passes through the most narrow portion of the tendon sheath.

The pathology consists of an inflammatory reaction of the synovia lining the tendon sheath, and a fusiform inflammatory swelling of the flexor pollicis longus tendon at the level of the point of most acute angulation of the tendon in the canal. The inflammatory reaction is mechanical in origin. Only on rare occasions is the syndrome associated with some systemic process.

Some authors have suggested there is pathological narrowing of the tendon sheath. However, clinical observations made at the time of surgical release of the sheath do not bear out this consideration. The process is secondary to greater than usual activity of the thumb in a middle-aged individual. It is always located at the point of most acute angulation of the tendon sheath and at a point where greatest direct pressure is applied to the thumb when grasping a firm object such as the handle of a tool. As a consequence an inflammatory reaction in the sheath and tendon is produced resulting in the changes noted. The tendon swells rather than the sheath narrowing.

*Little Rock Orthopedic Clinic, P.A., Post Office Box 5270, Little Rock, Arkansas 72205.

While immobilization and, on occasions, cortisone instillation into the tendon sheath may temporarily relieve the patient's complaint, the only satisfactory management of this problem is surgical release of the tendon sheath at the point of acute angulation over a distance of approximately 2 cm. This is readily accomplished under local anesthetic with care being taken not to damage the digital nerves and vessels. As a rule, the patient is pleased with the relief obtained as the inflammatory process then heals by resolution. "Trigger fingers" are a like process.

The second most common entity producing the complaint "painful thumb" is found at the opposite (proximal) end of the first metacarpal. Like stenosing tenosynovitis of the thumb, (trigger thumb) just considered, it is usually seen after middle-age. Careful palpation of the thumb will reveal swelling and tenderness at the level of the first metacarpal-carpal joint. The patient may try to withdraw the hand from the examiner because of the marked discomfort precipitated by this examination. Often the examiner will observe that instead of the resting thumb being maintained in the usual functional position it rests adducted toward the index finger. Abduction and circumduction are often limited and painful. X-rays may reveal a mild or a severe degenerative process involving the first metacarpal-carpal joint. The process may be bilateral. The patient may or may not dem-

onstrate generalized degenerative arthritis or in some instances rheumatoid arthritis.

Once again symptoms may be temporarily relieved by the instillation of cortisone into the articulation and/or immobilization of the thumb with a splint. However, one must anticipate that the symptoms will recur upon resumption of normal activity. The only satisfactory management is surgical. If the intercarpal articulations about the greater multangular (trapezium) are preserved and the patient wishes to use the hand for heavy activities in the future an arthrodesis of the diseased metacarpal-carpal joint usually proves to be the procedure of choice. It can be relied upon to relieve pain and restore useful function. Approximately six weeks of immobilization are required to assure the acquisition of a solid fusion. For this reason and because they desire a near normal range of motion some patients will elect to have a silastic implant arthroplasty as an alternative. In this instance all or most of the trapezium is removed, and the implant substituted. Where adequate stability is attained following implantation a full range of painless motion of the first metacarpal-carpal joint may be restored. One to two weeks of immobilization is usually adequate following this type of arthroplasty.

While these two entities are not the only causes for "painful thumb" they are by far the most common ones as seen in Office Orthopaedics.



ELECTROCARDIOGRAM

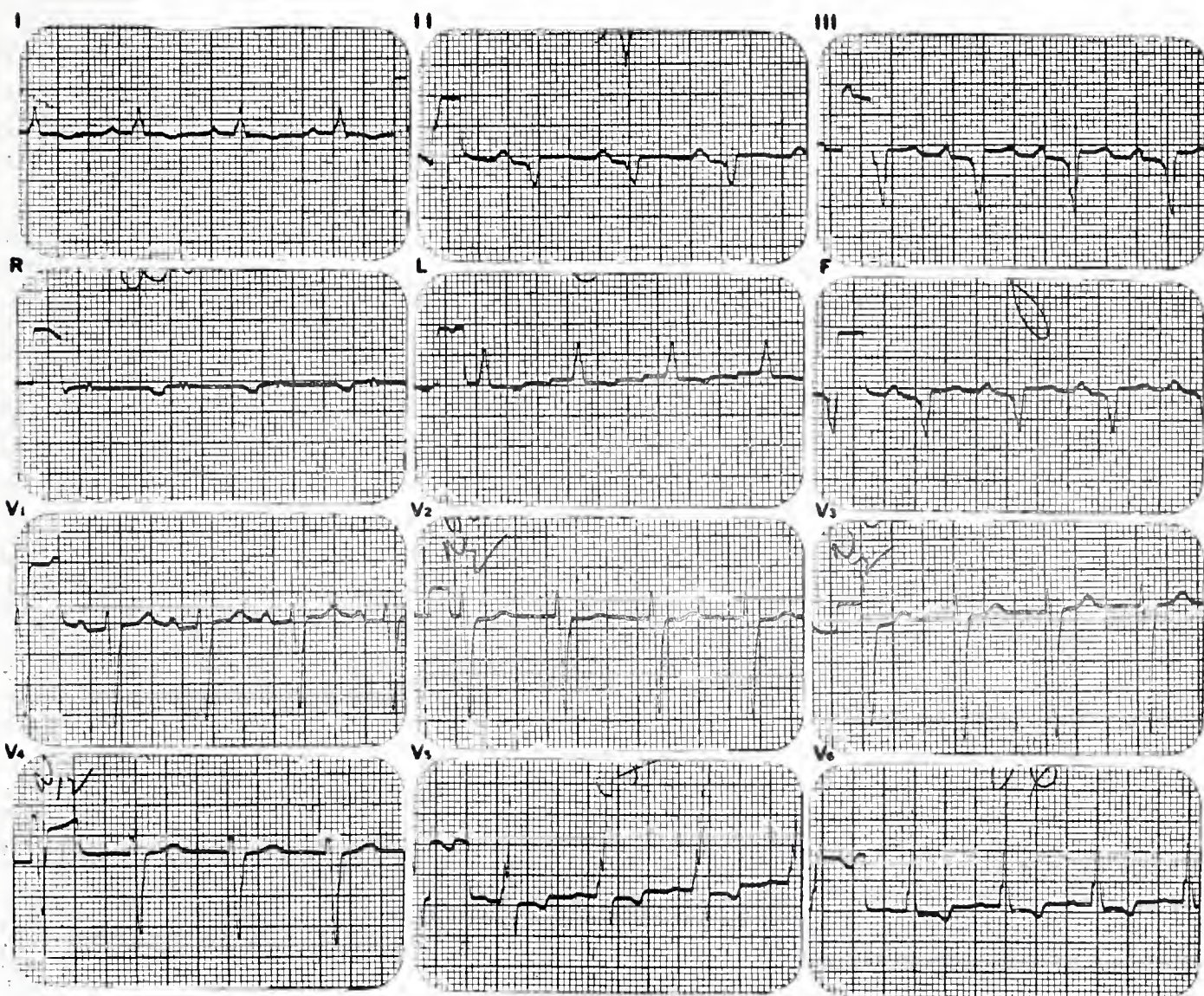
OF THE MONTH



The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 265)

The patient was a 45-year-old male with symptoms of easy fatigability, dyspnea on exertion and paroxysmal nocturnal dyspnea. There was no history of chest pain or hypertension.



Robert T. Bulloch, M.D.
 Professor of Medicine
 Chief, Cardiology Section
 University of Arkansas College of Medicine
 Little Rock, Arkansas 72205



PUBLIC HEALTH AT A GLANCE

M.E.D.D.—Medical Examinations for Disease Detection

Jerry Wilson, Research Analyst*

The Medical Examination for Disease Detection program known as MEDD, is an outgrowth of an experimental program entitled Community Activities for Senior Arkansans, which began operating in 1968. The Program, which was federally funded at that time, moved to the state Office on Aging after two years where it underwent some conceptual changes and a change of its name to MERCI, or Multiphasic Examinations to Reduce Chronic Illness.

Last year, the State took up the funding of the project and moved it to the State Health Department where it underwent further conceptual changes and refinements. The name of the program was changed from MERCI to MEDD.

The most significant operational change was in how the health services in the program would be delivered. In the past, a medically equipped bus had been used to provide the health services by going directly to rural communities but the system has now been scrapped in favor of the advantages of using the county health units themselves.

The State Health Department has been using volunteers to transport senior citizens interested in having the examination to the county health units, which generally are located in county courthouses.

An agreement that has been signed with the Office on Aging to provide any needed transportation finalized the procedures and helped to insure the delivery of this health care system.

The MEDD program was established to help get needed medical services closer to the people. The lack of transportation and medical facilities are two of the most serious medically related

problems confronting older Arkansans today.

The MEDD clinic is free and is for persons 55 years of age or older. MEDD staff members, including two nurses and a medical technician, are spending a week in each county in the State testing for such potential medical problems as diabetes, cervical and breast cancer and hypertension. Tests given include vision, blood and a urinalysis, as well as checking height and weight.

After the tests are made, persons have the opportunity to speak with one of the MEDD nurses about any medical problems being experienced.

As an example of the success of the program, 163 persons above the maximum number that can be seen in one week called for appointments when the MEDD clinic recently visited the Washington County Health Department at Fayetteville.

Overflow names are taken down so those people can be called back when the unit visits the area again.

The MEDD program staff does not dispense any medication or diagnose illnesses. The results of the tests are reviewed by a team of doctors at the State Health Department in Little Rock. If an abnormality is found, the person will be advised to see his family doctor or a doctor of his own choosing. The person's physician will also be notified if the result of any test makes a referral necessary.

The MEDD program was not designed to take the place of a person's regular visit to his family doctor. The ultimate goal of the pilot MEDD project is to make the clinic an ongoing one, regularly scheduled at each county health unit in the State.

*Division of Public Health Education, Services, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.



EDITORIAL

Medical Wanderings

Alfred Kahn, Jr., M.D.

The malpractice crisis still drags along. Eruptions of discontent by physicians who cannot afford or cannot get malpractice insurance are a daily occurrence in the papers. By and large, some State Legislatures seem to have failed to recognize and act on this situation. The ingredients of the stew are a consumer minded public, the inexactness of medical science, physician errors, and some overzealous attorneys. Given these factors and the obvious moderate financial success of most physicians (after five to twelve years post-college training), some law suits are inevitable, and properly so. The problem is the irresponsible suit or threat of suit (which often amounts to blackmail) which needs to be curtailed. The best bet still seems to be something similar to a Workmen's Compensation Board with a tribunal made of a physician, a lawyer, and a representative of the public. This tribunal should have authority to make financial grants to an injured patient, throw out irresponsible or unworthy suits, and to mediate claims.

The kaleidoscopic changes in the medical profession in past years is like watching a great river form new islands, sweep away banks, build up deltas, flood, and occasionally dry up. Specialties and subspecialties form and disappear. Some subspecialties "cross-over" a major specialty line—the best examples being gastro-enterology with internists and surgeons both doing endoscopies, peritoneoscopies, et cetera—and the same is true of cardiology to a lesser extent. Of growing interest is the dilemma of the profession—and this also involves the training in medical centers—of who is to be the primary physician. The accommodation in Arkansas has been good and comfortable but it is not everywhere else, as the numerous articles in the specialty press bear testimony. Is the general physician, the internist,

or the subspecialist to be the primary physician? Ordinarily, the subspecialist becomes the primary physician by default rather than choice—the patient knows of his subspecialty, and feeling that his ailment fits this subspecialty, goes directly to the subspecialist. The subspecialist does not want the general care of the patient after his subspecialty work. This leaves the arena to the general physician and the internist. Actually, it is a tempest in a teapot as both internist and general physicians are needed. The mutual dependence of internist and general physician was more clear a few years back before the advent of the subspecialist; at that time problem cases were referred to the internist; now, many general physicians refer to the subspecialist directly. The real place of the internist is handling difficult diagnostic and therapeutic problems, especially in complicated cases where the disorder covers several areas of the medical spectrum. The real enforcer of the division between the general physician and the internist is available time. The general physician, with the public depending on him, does not have time to become involved in long work-ups or tedious prolonged surgical procedures. The specialists of general medicine and internal medicine are complementary; they should not be in any sense competitive despite the fulminations in the national journals. Arkansas and America needs both generalists and internists.

The maldistribution of physicians and the presumptive physician shortage has precipitated immediate public interest in the possibility of using so-called refugee physicians. This is an old smouldering problem with as many variations as the legs on a centipede—and more. For example, the resort states try to prevent qualified physicians from retiring to practice in their state;

"WANTED"

TWO COUNTRY DOCTORS

To join 6-man, foul-tempered, over-worked group. Abundance of patients—both night and day.

Recreational advantages are few.

Mosquitoes are unbearable 3 months each year. Duck hunting not much good anymore. Most fishing reservoirs have been drained for soybeans.

Lot Of Pathology!

You can make a lot of money!

CONTACT: Pat Watkins, Admin.
Stuttgart Medical Clinic
Stuttgart, Arkansas 72160
501-673-7211

Internist needed for a four man well established group in Memphis, Tennessee. Openings available immediately and in January and July of 1976. Modern office is adjacent to Methodist South Hospital (a satellite of Methodist Hospital Central of Memphis, a 900 bed accredited facility). Our practice is one of general internal medicine with an emphasis on cardiology, however, opportunity exist for any major sub-speciality. Affiliation with the University of Tennessee School of Medicine is available if desired. Contact P. D. Holmes, M.D., 4274 Faronia, Memphis, Tennessee 38116, telephone 901 398-2374.

Medical Personnel Needed

Dedicated Health Professionals needed to serve the Developmentally Disabled at the Arkansas Children's Colony, Conway, Ark.

Immediate openings for:

Medical Services Administrator
— House furnished — Salary Open.

Staff Physician — Salary Open.

Please contact Hurlis V. Graham, Suite 300, Professional Bldg., No. Little Rock, Ark. 72116. Telephone: 501-371-1268.



IMPORTANT INFORMATION: This is a Schedule V substance by Federal law; diphenoxylate HCl is chemically related to meperidine. In case of overdosage or individual hypersensitivity, reactions similar to those after meperidine or morphine overdosage may occur; treatment is similar to that for meperidine or morphine intoxication (prolonged and careful monitoring). Respiratory depression may recur in spite of an initial response to Nalline® (nalorphine HCl) or Narcan® (naloxone HCl) or may be evidenced as late as 30 hours after ingestion. LOMOTIL IS NOT AN INNOCUOUS DRUG AND DOSAGE RECOMMENDATIONS SHOULD BE STRICTLY ADHERED TO, ESPECIALLY IN CHILDREN. THIS MEDICATION SHOULD BE KEPT OUT OF REACH OF CHILDREN.

Indications: Lomotil is effective as adjunctive therapy in the management of diarrhea.

Contraindications: In children less than 2 years, due to the decreased safety margin in younger age groups, and in patients who are jaundiced or hypersensitive to diphenoxylate HCl or atropine.

Warnings: Use with special caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis. In severe dehydration or electrolyte imbalance, withhold Lomotil until corrective therapy has been initiated.

Usage in pregnancy: Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the breast milk of nursing mothers.

Precautions: Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs or known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage. Use with care in patients with acute ulcerative colitis and discontinue use if abdominal distention or other symptoms develop.

Adverse reactions: Atropine effects include dryness of skin and mucous membranes, flushing, hyperthermia, tachycardia and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy, anorexia, restlessness, euphoria, pruritus, angioneurotic edema, giant urticaria, paralytic ileus, and toxic megacolon.

Dosage and administration: Lomotil is contraindicated in children less than 2 years old. Use only Lomotil liquid for children 2 to 12 years old. For ages 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 4 ml. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml., 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

Overdosage: Keep the medication out of the reach of children since accidental overdosage may cause severe, even fatal, respiratory depression. Signs of overdosage include flushing, hyperthermia, tachycardia, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils and respiratory depression which may occur 12 to 30 hours after overdose. Evacuate stomach by lavage, establish a patent airway and, when necessary, assist respiration mechanically. A narcotic antagonist may be used in severe respiratory depression. Observation should extend over at least 48 hours.

Dosage forms: Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. Liquid, 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

SEARLE

Searle & Co.
San Juan, Puerto Rico 00936

Address medical inquiries to:
G. D. Searle & Co.
Medical Department, Box 5110,
Chicago, Illinois 60680

this situation consists of two variables; some well trained out of state physicians and a reluctant "home town" medical society. The Viet Nam air lift to the U. S. poses a variation: physicians of unknown training and open minded medical society, plus a public desirous of close-by medical care. With regard to the Viet Nam "refugee" physicians, common sense indicates that if they can prove good medical training and can pass appropriate licensure tests, then they should be permitted to practice. But this does not mean reducing the standards which one uses to accredit medical schools or to certify physicians for practice; if this were done it would create first and second class physicians. Because of the difficulties involved, it might be well for this group of

physicians to have a period of preceptorship if there is any question of competency. This does not mean that Arkansas or any single other state could or should try to absorb all qualified "refugee" physicians. It does point out the possibility of getting a limited number of qualified physicians in geographic areas of need. Of the greatest importance is the fact that this should be completely under the control and guidance of the Arkansas Medical Society and the Arkansas Medical Licensing Board. Currently the University of Arkansas School of Medicine is asserting its leadership in trying to qualify these Vietnamese physicians. Special classes are being held for them with the idea in mind of qualifying them for the licensing examinations.



MEDICINE IN THE



THE MONTH IN WASHINGTON

Congress deserted Washington for a summer holiday leaving behind not only the August heat of the Potomac swamplands but also most of its planned health legislation still hanging up in the humid air.

With passage of national health insurance (NHI) written off for this year, both the Senate and House on return will tackle a variety of health or health-related matters including health manpower, already passed by the House, amendments to the Health Maintenance Organizations Act (HMO), and possible changes to the Medicare law.

While the health subcommittee of the House Ways and Means Committee has scheduled public hearings on NHI for October 28, subcommittee chairman Daniel D. Rostenkowski (D-Ill.) stated "the considerable lead time needed to forge a NHI bill" as the unexpected reason for hearings this year.

Pressing problems with Medicare, however,

have prompted Rep. Rostenkowski to schedule hearings on possible changes to that law on September 19.

"Recent oversight hearings concerned certain HEW regulations, including those on utilization review and the 8½ percent nursing care differential. As we consider Medicare changes, I expect that we will explore the possibility of major modifications in the way hospitals are reimbursed. And we will look at how Medicare may help hospitals facing steep increases in malpractice insurance rates," Rep. Rostenkowski said.

The slating of an additional hearing indicates the subcommittee will probably draft legislation to change some of the present Medicare regulations. There may not be time for final Congressional action this year, but legislation could clear Congress next year.

Many of the revisions the subcommittee members are considering would be welcome to the medical profession.

Listed as one topic of the hearing was the present law's requirement that physicians' Medicare reimbursement be tied to a type of cost-of-living index and geared to the 75th percentile of normal and customary charges. The American Medical Association has challenged the fairness of HEW's proposed index and warned that the regulation could drive increasing numbers of physicians away from assignment. Another hearing subject is "physicians' services reimbursement—possible basic changes in present 'reasonable charge' system."

Two other controversial Medicare regulations are up for review—possible revisions in Professional Standards Review Organizations (PSRO) provisions, and utilization review requirements for hospitals, the latter under temporary injunction by the federal courts as a result of an AMA court protest.

Other issues to be considered by the subcommittee:

- *Termination of the 8½ percent nursing differential in hospital costs;
- *Redefinition of reasonable cost level for hospitals (90th to 80th percentile and revised hospital classification system);
- *Nurse staffing requirements in rural hospitals (authority to waive certain requirements with respect to nurse staffing requirements in rural hospitals expires on January 1, 1976).
- *Medicare relationship to Federal Employee Health Program (no payment may be made under Medicare, beginning January 1, 1976, for services provided to members of the Federal Employee Plan unless a system of coordination between two programs is developed under present law).
- *Revisions in hemodialysis and kidney transplant provision to improve administration and enhance cost effectiveness.
- *Revisions in home health care provisions.
- *Medicare Part B premium increase provision—correction of technical error in present law which precludes increasing the premiums.
- *Institutional services reimbursement—possible basic changes from the present retroactive reasonable cost reimbursement.
- *Consideration of a specific proposal, with respect to malpractice, to permit hospitals to self-insure and charge such costs to Medicare.
- *Revisions in current coverage of ambulance services.

*Coverage of pap smears under Medicare Part B.

*Possible changes in payment methods for physicians' services when patient is deceased.

Similar hearings will get underway in the Senate this fall. The Senate Finance Subcommittee on Health, according to Chairman Herman Talmadge (D-Ga.), plans sessions "to resolve some of the reimbursement and related problems in Medicare and Medicaid, and some of the more arbitrary and inequitable regulations which have been promulgated by HEW."

* * *

A bill relaxing some of the federal requirements for Health Maintenance Organizations (HMO's) to receive federal aid has been approved by the Health Subcommittee of the House Commerce Committee. The legislation was spurred by the lagging start of the once-vaunted HMO program which has been stalled despite high hopes of backers it would prove popular and become a viable alternative to regular health insurance and fee-for-service.

No full committee action was taken prior to the August recess. Senate committee consideration won't begin until after House action, putting a time squeeze on the bill as far as final action this year is concerned.

The AMA had urged the House Commerce Subcommittee headed by Rep. Paul Rogers (D-Fla.) not to reduce the present HMO program to a subsidy for pre-paid group practice plans.

The Subcommittee bill amended the controversial "dual option" clause in the law that requires employers to give individual workers their choice between an HMO plan and private health insurance. Labor has protested this interferes with collective bargaining. The amendment gives union representatives the right to veto an HMO option, but not to veto a regular health insurance option. Thus, Labor would have power to block an HMO but not to accept one for all employers at the exclusion of fee-for-service health insurance.

The provision averted the danger that labor unions could force all employees in a company to accept a union-formed and/or-controlled HMO.

Another important action was elimination of the present "open enrollment" provision for HMO's, a provision designed to avoid having HMO's able to skim the cream and take only

low-risk groups or individuals. However, the subcommittee bill retains present requirements that HMO's, to qualify for aid, must "enroll persons who are broadly representative of the various age, social and income groups within the area it serves..."

The bill allows HMO's to offer as optional rather than mandatory some HMO services and to limit the preventive health services which would have to be offered as basic services.

* * *

Another blow to the belly has been delivered to national health insurance plans relying on Social Security financing. The General Accounting Office, supervisor of federal spending and operations for Congress, reports Social Security's trust funds "face exhaustion in the near future because of increased benefit levels due to inflation, and high unemployment causing reduced contributions..."

According to GAO, projections covering the next 75 years show that the system will also incur a large long-range deficit because of the decreasing birth rate and the rising cost of living.

In order to alleviate the situation, GAO pointed out, Congress will have to approve some of the remedies already suggested by various advisory bodies, including financing of Medicare Part A out of general revenues, the equivalent of adding a new \$9 billion annual spending program. The money saved for Social Security, \$9 billion, would be used to support other Social Security programs, primarily the main retirement disability program. Social Security taxes would not be changed, but federal corporate and income levies presumably would have to furnish an extra \$9 billion.

Unless such steps are taken, General Accounting warned, "there may be no alternative to increasing (Social Security) taxes" or the wage base or both.

* * *

A Federal Court ruling threatens to crimp the Food and Drug Administration's plan to make it easier for "generic drug" makers to market their products quickly after patent protection runs out on brand-names.

An order by U. S. District Court Judge June Green in Washington, D. C., blocked FDA from allowing Zenith Laboratories, Inc., Northvale, N. J., to market a generic version of chlorthalidazine without first obtaining a new drug

application. The ruling was sought by Hoffman-La Roche, Inc., Nutley, N. J., which markets the product as Librium.

Judge Green said the NDA requirement for generic drugs has an anti-competitive effect, but "the overriding interest in insuring the health and safety of the public through compliance... requires the result reached here."

Securing an NDA for a product is a lengthy and expensive procedure, requiring test data, etc., and would delay for a long period introduction of competitive "generic" drugs in cases where patents have lapsed.

If upheld by higher courts, the ruling could hurt the HEW Department's controversial Maximum Allowable Cost (MAC) program intended to foster purchase of generic drugs by Medicaid patients. MAC has been challenged in Federal Court by the AMA.

* * *

The Food and Drug Administration heard strong arguments for and against warning labels for oral diabetic drugs at an unusual one-day hearing on one of the Agency's keenest medical-scientific controversies over the past five years.

A new British study and the testimony of one of the original American investigators cast some doubt on the validity of the scientific data FDA has been relying upon in its effort to crack down on oral hypoglycemics. On the other hand, one of Ralph Nader's health teams contended the warning label was insufficient and called for written consent by patients taking the oral products.

The hearing was called to further air the differences of opinion on the FDA's proposed warning that there may be increased risk of cardiovascular death in diabetic patients treated with the oral drugs. The proposal is based on a 1961-1970 clinical study by the University Group Diabetes Program (UGDP) which claimed that heart disease death rate was twice as high among patients treated with the oral drugs compared with those on insulin or on special diets.

A double blind study by University of London professor Harry Keen suggested evidence of long-term benefits from Tolbutamide and Phenformin and no long-term cardiovascular toxicity. An FDA official said this latest study, carried out over an eight year period, will require close consideration.

The UGDP study may have been prejudiced by

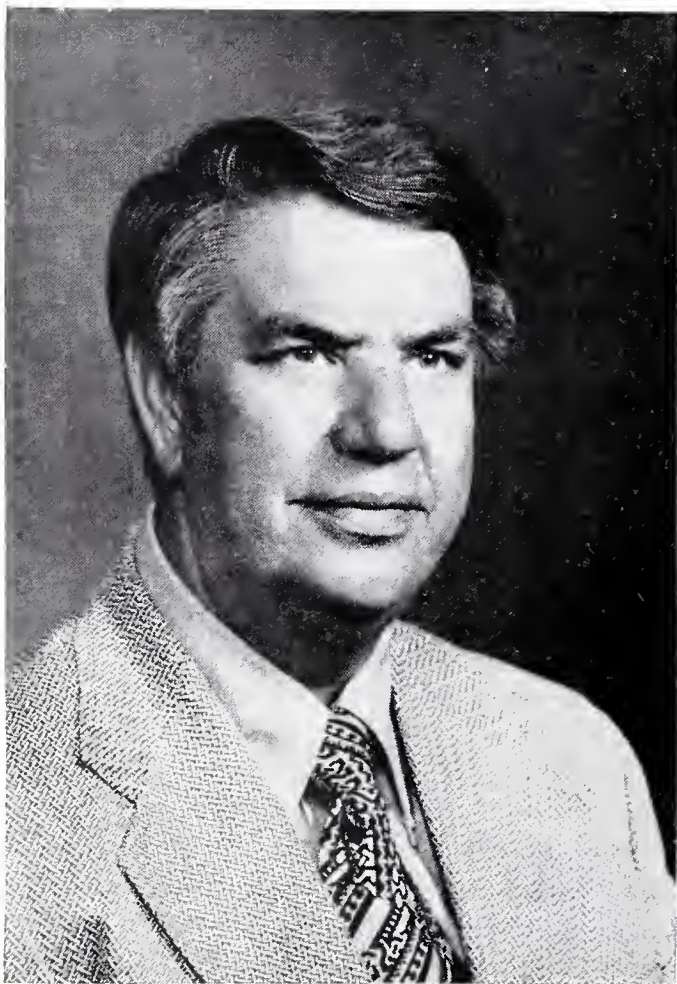
a conflict of interests on the part of one of the investigators, a researcher in the study testified.

Angela Bowen, M.D., Olympia, Wash., told the FDA "it would be on mighty thin ice" if it goes forward with its plan to require warning labels without first investigating whether the study was valid.

Describing herself as a "very reluctant witness," Dr. Bowen told the investigation took on almost a vendetta approach where Tolbutamide was involved. In addition, she said some of the deaths ascribed to that drug appeared to have been caused by factors unrelated to the diabetic conditions of the patients.

J. Richard Crout, M.D., Director of the FDA's Bureau of Drugs, said he found the allegations "a little astounding" and would have to evaluate them.

* * *



Asa S. Crow, M.D., Paragould

Dr. Asa Crow First Vice President

Dr. Asa A. Crow of Paragould was elected first vice president of the Arkansas Medical Society at the 1975 Annual Session.

Dr. Crow attended Arkansas State University in Jonesboro and was graduated from the University of Arkansas School of Medicine in 1961. Following his internship at the University of Arkansas Medical Center in Little Rock, he began his general practice in Paragould.

Service to organized medicine is important to Dr. Crow. He has served in several capacities, including: president of the Greene-Clay County Medical Society, chief of staff of the Community Methodist Hospital, a member of the ArkPac Board of Directors, a member of the Society's Medical School Committee, second and third vice president of the Society, and immediate past president of the Caduceus Club of the University of Arkansas for Medical Sciences.

Civic and community organizations provide another area where Dr. Crow provides leadership and counsel. He has served on the United Fund Board, District Boy Scout Council, Paragould Housing Authority, and as immediate past president of the Paragould Country Club.

Dr. Crow is married to the former Wanda Barnes of Caruthersville, Missouri, and they have three children: Denise, 15; Susan, 14; and Greg, 12. Of his various hobbies and interests, Dr. Crow especially enjoys playing golf—when his busy schedule permits.

* * *

4-H O-Rama Trophies

Presented by Society Members

Medical Society members from six districts, including three councilors and two past presidents, were on hand for the awards programs and presentations of trophies during the District 4-H O-Ramas over the State this summer. The following physicians presented trophies to the first place winners in the junior and senior divisions of the Health Activities: Dr. Paul Gray, Batesville; Dr. Morris M. Henry, Fayetteville; Dr. John Farmer, Magnolia; Dr. Kemal Kutait, Fort Smith; Dr. C. Lewis Hyatt, Monticello, and Dr. Ben N. Saltzman, Little Rock.

The Arkansas Medical Society, for the past four years, has underwritten the expense of tro-

phies for each District O-Rama Health Activity as well as the State 4-H O-Rama Health Activity. The Health Activity participants increased by forty-one students above last year's totals. A total of ninety-two junior and senior 4-H members competed in the Health Activity conducted in the districts.

* * *



Jeanette Sanders, Jefferson County, Dr. C. Lewis Hyatt of Monticello, past president, Arkansas Medical Society, and Laura Narramore, Jefferson County.



Vee Ann Simpson, Union County, Dr. John Farmer of Magnolia, and Shirley Moore, Union County.



Ellen Daniel, Benton County, Dr. Morris Henry of Fayetteville, Councilor, and Lori Kennen, Benton County.



Rita Goins, Stone County, Dr. Paul Gray of Batesville, Councilor, and Kim Clark, Jackson County.



Rose Branham, Sebastian County, Dr. Kemal Kutait of Fort Smith, Councilor, and Debbie Jones, Sebastian County.



C. C. Long, M.D., Arkansas Medical Society Council Chairman, meets with the Secretary of the Department of Health, Education and Welfare to discuss putting all Arkansas in one category for payment of Medicare fees. Shown on left is Dr. Long; center, Mr. Lynn Lowe, Arkansas Republican Party Chairman. David Mathews, Ph.D., is on the right.

The Arkansas Medical Society Gets to the Top In Efforts to Eliminate Five-Area Discrimination

Dr. C. C. Long, Chairman of the Council of the Arkansas Medical Society, met with the new Secretary of Health, Education and Welfare, Dr. David Mathews, on September 9. The purpose of the trip was to ask the Secretary to change HEW's discriminatory methods of paying rural physicians less than the fees received by urban doctors under Medicare. The appointment was arranged by Mr. Lynn Lowe of Texarkana, Chairman of the Republican Party in Arkansas, through his contacts among Republican officeholders. Mr. Lowe believes the desired change will be made and is determined to see it through.

The present system of dividing the State into five areas according to income levels was installed soon after Medicare was implemented in 1965. The Medical Society has tried in vain for five years or more to change the system so that there would be one area for the whole State. Repeated attempts have been made through our congressmen and

senators. Delegations from the Arkansas Medical Society have gone to the Department of HEW in Washington to try to convince HEW that the system was unfair, that it militated against doctors locating in rural towns where they are needed worst, and that it would cost the Government little, if any, more than under the present discriminatory system. The system discriminates against patients under the program in that they pay a larger portion of a doctor's fee in the lower four areas than do patients in Area I. The number of doctors who accept assignment in areas outside Area I is low and is declining.

Until Dr. Long's visit, the Department of HEW would not budge from its position. Dr. Mathews, however, expressed interest and concern. The Arkansas Medical Society will continue its efforts to change a system which exacerbates the physician shortage in rural areas and guarantees that patients outside of Area I will pay more for their care under Medicare.

* * * *

THINGS



TO
COME

AMA Tulsa Regional for Category I

The American Medical Association, Oklahoma State Medical Association and Tulsa County Medical Society are co-sponsoring Category I Continuing Medical Education Courses in Tulsa, January 17-18, 1976.

A total of seven separate courses will be given on the following topics:

- The Child in the Emergency Room
- Financial Management
- Basic Life Support Course in Cardiopulmonary Resuscitation
- Recent Advances in Cardiac Management
- Dermatology for Non-Dermatologists
- Management of the Critically Injured Patient
- Acid-Base, Fluid and Electrolyte Balance

For detailed information on each course and registration forms contact: Ralph W. Richter, M.D., Associate Dean, Continuing Medical Education, The University of Oklahoma College of Medicine—Tulsa, 3233 East 31st Street, Tulsa, Oklahoma 74105.

Rural Health Conference

The twenty-ninth National Conference on Rural Health and fifth Arizona Conference on Rural Health will be held April 8-9, 1976, at the Hyatt Regency Phoenix, in Phoenix, Arizona.

For detailed information and registration forms contact: Department of Rural and Community Health, American Medical Association, Division of Medical Practice, 535 North Dearborn Street, Chicago, Illinois 60610.

EDUCATIONAL OPPORTUNITY ANNOUNCEMENTS

PROGRAM

SEMINAR: DATE: DIRECTOR:
Acute Respiratory 12-8-75 thru Nancy F. Rector,
Failure Course 12-10-75 M.D.

*Registration is closed for this seminar. However, for more details, contact the Department of Continuing Education for Physicians, University of Arkansas For Medical Sciences Campus, 4301 West Markham, Little Rock, Arkansas 72201.

Mark Your Calendar Winter Session 1975

SUNDAY

DECEMBER						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

14

DEC. 1975

ATTEND!

*ARKANSAS MEDICAL
SOCIETY*

*Winter Meeting
at the
Camelot Inn in
Little Rock*

348 - SUNDAY, DEC. 14 - 17

- HOUSE OF DELEGATES
- COMMITTEE MEETINGS
- COUNCIL MEETING
- TOP-NOTCH SPEAKER



PERSONAL AND NEWS ITEMS

Dr. Phillips Robbed

Dr. Bert L. Phillips of North Little Rock was robbed at gunpoint in his home recently. The assailant came to Dr. Phillip's door asking for medical assistance. When Dr. Phillips allowed the man to come into the house, the assailant scuffled with the doctor and robbed him.

Dr. Edmondson Opens Office in Danville

Dr. Rogers P. Edmondson, who practiced medicine in Springdale for twenty-one years, has announced the opening of his office in Danville for the practice of general medicine and surgery.

Dr. Ring is Speaker

Dr. Gene D. Ring of Dardanelle spoke to his community's Chamber of Commerce recently, seeking their cooperation in an effort to attract additional physicians to the town.

Dr. Faris is Campus Physician

Dr. John Faris of Jonesboro has agreed to work as campus physician in the Student Health Center of Arkansas State University this year. Plans call for Dr. Faris to be in the Health Center two separate hours each day, five days per week.

Dr. Saltzman Appointed Rotary Official

Dr. Ben N. Saltzman of Little Rock has been appointed a member of the United States, Canada and Bermuda Consultative Group of Rotary International, the worldwide service organization.

Dr. Wilson on Bank Board

Dr. Larkin M. Wilson, Jr., of El Dorado, has been elected to the Board of Directors of the National Bank of Commerce in El Dorado.

Drs. Lesh and Hathcock Honored

Dr. Ruth Ellis Lesh and Dr. Preston L. Hathcock, both of Fayetteville, were honored by fellow members of the Washington Regional Medical Center staff. Dr. Lesh and Dr. Hathcock each received a bronze service plaque marking their retirement after twenty-five years of service to that hospital in Fayetteville.

Dr. Moore Speaks to Rotary Club

Dr. John H. Moore of El Dorado discussed safety and the prevention of injuries from a phy-

sician's viewpoint at a recent meeting of the El Dorado Rotary Club.

Medical Seminar In Mountain Home

Dr. Robert Kerr and Dr. Max Cheney of Mountain Home were among the participants in a seminar entitled "Infection Control and You" for health professionals. The seminar attracted more than 200 attendees from ten states.

Dr. Kittrell at Texarkana AHEC

Dr. James B. Kittrell, a Texarkana family practitioner for twenty-eight years, will become head of the new Area Health Education Center being established at Texarkana by the University of Arkansas for Medical Sciences.

Dr. Phillips Honored by Medical Assistants

Dr. W. P. Phillips of Fort Smith has been selected "Doctor of the Year" by the Sebastian County Medical Assistants Society.

Dr. Saltzman is Campaign Chairman

Dr. Ben N. Saltzman of Little Rock has been appointed State chairman for the 1975 Christmas Seal Campaign, which officially opened November 13th.

Dr. Henker is Historical Speaker

Dr. Fred O. Henker of Little Rock recently spoke to the Pulaski County Historical Society on mental health practices in the county's history.

Dr. Landrum is Guest Speaker

Dr. Annette Landrum of Fort Smith was guest speaker at a seminar for medical assistants, sponsored by the Sebastian County Medical Assistants Society. Dr. Landrum instructed the group on medical laboratory procedures.

Dr. Hornberger Named to Hospital Position

Dr. E. Z. Hornberger, an Internist in Fort Smith since 1950, has been named Medical Education Director of Sparks Regional Medical Center in Fort Smith. Dr. Hornberger will be responsible for coordinating the activities relating to utilization review, medical audit, Joint Commission, medical staff education, and he will also act as a special advisor to the hospital administration on medical matters.



OBITUARY

Dr. Charles Lynn Weber

Dr. Charles Lynn Weber of Magnolia died August 9, 1975, at the age of sixty-seven. He was born March 7, 1908, in Turtle Creek, Pennsylvania. He was a graduate of the College of Physicians and Surgeons, Boston, Massachusetts, in 1937.

Dr. Weber established his family practice in Magnolia in 1939, and established the Weber Clinic there in 1948, following his return from military service. He was active in his community as a member of the American Legion, Veterans of Foreign Wars, first president of the Magnolia Airport Commission, president of the Magnolia Country Club, and former president of the local Optimist Club. He was also a Shriner and a 32nd Degree Mason.

His professional associations in the field of medicine included the Columbia County Medical Society, Arkansas Medical Society, Southern Medical Association, and the American Medical Association. He was a Fellow in the American Academy of Family Physicians.

Dr. Weber is survived by his wife, Annette, one daughter, and three sons, including Dr. Charles H. Weber of Magnolia.

Dr. Henry Harrison Atkinson

Dr. Henry H. Atkinson of Fordyce died October 5, 1975, at the age of sixty-one. He was a native of Fordyce and a 1938 graduate of the University of Arkansas School of Medicine.

Following his graduation from medical school, Dr. Atkinson practiced medicine at Cummins Prison Farm near Pine Bluff and at Crossett. In 1946, he established his practice in Fordyce and became active in the community. Dr. Atkinson was a World War II veteran, former school board president, a member of the Fordyce City Council, Dallas County Health Officer, and a member of the American Wildlife Association and National Rifle Association.

His professional associations included the Dallas County Medical Society, Arkansas Medical Society, and the Southern Medical Association.

Dr. Atkinson is survived by his wife, Maxine, and two sons, James and Max.



NEW MEMBERS

Dr. Layne Eugene Carson

Dr. Layne E. Carson is a new member of the Pulaski County Medical Society. He is a native of Wynne, Arkansas.

Dr. Carson graduated from the University of Tennessee, Knoxville, in 1940. He was graduated from the University of Tennessee College of Medicine, Memphis, in 1943. Dr. Carson interned at Gallinger Memorial Hospital, Washington, D.C., and completed a residency in Internal Medicine in 1952 at Walter Reed Army Hospital, Washington, D.C. Board certified in family practice, he is also a member of the American Academy of Family Physicians.

Dr. Carson is in General Practice at the Veterans Administration Hospital, 300 East Roosevelt Road, Little Rock.

Dr. Jeffrey Warren Ellis

The Pulaski County Medical Society has accepted Dr. Jeffrey W. Ellis for membership. He is a native of Chicago, Illinois.

After graduating from Grinnel College, Grinnel, Iowa, in 1969 with an A.B. degree, Dr. Ellis was graduated from the University of Illinois College of Medicine, Chicago, in 1973. He was an Obstetrics and Gynecology resident in 1973-74 at the University of Illinois Hospital in Chicago. In 1974-75, he was a resident in Surgery at the University of Arkansas for Medical Sciences in Little Rock.

Dr. Ellis is in Family Practice, with offices located at Suite 1000, Medical Towers Building, Little Rock.

Dr. James T. Y. Kwee

The Pulaski County Medical Society has accepted Dr. James T. Y. Kwee as a new member. He is a native of Indonesia.

Dr. Kwee received his medical degree from the Faculty of Medicine, Airlangga University, Sura-

NEW MEMBERS

baya, Indonesia, in 1966. He completed an internship and a residency in Obstetrics and Gynecology at the University of Arkansas Medical Center in Little Rock.

Dr. Kwee is practicing Obstetrics and Gynecology at 310 Doctor's Park in Little Rock.

Dr. Noble Brassfield Daniel, III

The Miller County Medical Society has added the name of Dr. Noble B. Daniel, III, to its membership roll. He is a native of Texarkana, Texas.

Dr. Daniel graduated from Southern State College, Magnolia, Arkansas, with a B.S. degree in 1969, and he was graduated from the University of Arkansas School of Medicine in 1974. Dr. Daniel's internship was completed at John Peter Smith Hospital, Fort Worth, Texas. He is a member of the American Academy of Family Physicians. Dr. Daniel is in Family Practice at 317 Stateline Road, Texarkana.

Dr. Roehl Wesley Johnson

Dr. Roehl W. Johnson, a native of Knoxville, Tennessee, is a new member of the Craighead-Poinsett County Medical Society.

He received a B.A. degree in 1965 from Central Methodist College, Fayette, Missouri. In 1969, he was graduated from the University of Tennessee College of Medicine, Memphis. After interning at Baptist Memorial Hospital in Memphis, Dr. Johnson was in Pediatric residency until 1975 at the City of Memphis Hospitals.

He is now practicing Pediatrics at 505 East Matthews, Jonesboro.



Dr. Michael C. Reese

The Benton County Medical Society has accepted Dr. Michael C. Reese for membership. He is a native of Aurora, Illinois.

Dr. Reese graduated from Hendrix College in Conway, Arkansas, in 1964 with a B.A. degree. He was graduated from the University of Arkansas School of Medicine in 1968. Dr. Reese completed his internship at St. John's Hospital in Tulsa, Oklahoma. He has had one year of General Surgery residency and three years of Otolaryngology residency at the University of Arkansas Medical Center. Dr. Reese completed two years of active duty with the United States Air Force in 1971 at Tucson, Arizona. He is a

member of the American Council of Otolaryngology.

Dr. Reese is practicing Otorhinolaryngology at 1110 West Elm in Rogers.

Dr. Yale E. Parkhurst

The Crawford County Medical Society has added a new member, Dr. Yale E. Parkhurst, a native of Centralia, Washington, to its membership roll.

Dr. Parkhurst attended Northeastern State College in Tahlequah, Oklahoma, and the University of Oklahoma in Norman. He was graduated from the University of Oklahoma School of Medicine in Oklahoma City in 1948. Dr. Parkhurst's internship was completed at St. Joseph Hospital, Wichita, Kansas, and he was a resident at the University Hospital in Oklahoma City.

He has practiced in Bel Plaine, Kansas, Norman and Miami, Oklahoma, and for the past five years, he has been in practice in Oklahoma City, Oklahoma. Dr. Parkhurst has held teaching appointments at the University of Oklahoma Health Science Center and the University of Kansas Medical Center. He has served as Director for Health Services for the State of Oklahoma, and Director for Health Education for the State of Oklahoma.

Dr. Parkhurst is now in General Practice at 1103 Chestnut Street in Van Buren, in association with Dr. Millard C. Edds and Dr. Ed G. Hopkins.

Dr. Thomas A. Henry

Dr. Thomas A. Henry is a new member of the Pulaski County Medical Society. He is a native of Little Rock.

Dr. Henry graduated from the University of Arkansas in 1964 with a B.A. degree. He was graduated from the University of Arkansas School of Medicine in 1968. His internship was completed at Parkland Memorial Hospital in Dallas, Texas, and he completed his Ophthalmology residency at the University of Arkansas for Medical Sciences in 1975. Dr. Henry is now practicing Ophthalmology at the Doctors Building, 500 South University, Little Rock.

Dr. David Allan

The Garland County Medical Society has

NEW MEMBERS

added a new member, Dr. David Allan, a native of Wemyss Fife, Scotland.

Dr. Allan was graduated from the University of St. Andrews School of Medicine, Dundee, Scotland, in 1950. He completed an internship at the Dundee Royal Infirmary and a residency in Anesthesiology at the University of Toronto, Ontario, Canada. From 1962 until 1974, Dr. Allen practiced at Northwestern University in Chicago.

He is a member of the American Society of Anesthesiology, and a Fellow of the American Academy of Pediatrics. He has held a teaching appointment at the University of Arkansas School of Medicine.

Dr. Allan is practicing Anesthesiology at Ouachita Memorial Hospital in Hot Springs.

* * * * *

The following are new student, intern, and resident members of the Pulaski County Medical Society:

University of Arkansas for Medical Sciences:

C. Don Greenway, Resident—Internal Medicine

Joe A. Abrams, Resident—Family Medicine

Jim Sharp, Resident—Ophthalmology

Robert L. Reese, Resident—Radiology

Thomas R. Wallace, Resident—Ophthalmology

Robert G. Eubanks, Resident—Orthopaedics

Thomas R. Braswell, Medical Student



ANSWER—Electrocardiogram of the Month

Interpretation:

The patient had marked generalized cardiomegaly, and was diagnosed as having cardiomyopathy.

The ECG shows marked left axis deviation with Q waves in the posterior-inferior leads that could be confused with a previous myocardial infarction. The PR interval is upper normal limits. The QRS interval is prolonged and compatible with intra-ventricular conduction delay. T wave inversion is present in the anterior and left precordial leads. There is "high voltage" of the left ventricle (precordial leads) and left ventricular hypertrophy is possible.

The changes described indicate myocardial pathology but are not specific for any special type of heart disease.



Woman's
Auxiliary

Auxiliary Dedicates Plaque

The Woman's Auxiliary to the Arkansas Medical Society has placed a bronze plaque at the Capitol Hotel in Little Rock. The plaque commemorates the establishment of the Auxiliary fifty years ago, in 1925.

Mrs. Curry B. Bradburn, Jr., Little Rock, State Auxiliary President, gave the welcoming address. Mrs. Frank Padberg presented a brief history of

the Auxiliary. Honored guests included seven charter members of the organization, who were Mrs. C. W. Archer, Mrs. Robert M. Eubanks, Mrs. Charles G. Hinkle, Mrs. Fay Jones, Mrs. C. E. Oates, Mrs. Wallace Rose, and Mrs. N. F. Weny.

Auxiliary Officers for Pulaski County

The Pulaski County Medical Society Auxiliary has elected and installed officers for the year. Mrs. Ray Jouett is president; Mrs. William Orr, president-elect; Mrs. Paul Cornell, first vice president; Mrs. Harold Chakales, second vice-president; Mrs. James Kyser, publicity secretary; Mrs. William Turner Harris, telephone chairman; Mrs. Robert Valentine, recording secretary; Mrs. Dalton Packmore, treasurer; Mrs. Roger Vaughter, corresponding secretary; and Mrs. William Hayden, historian.

1975

December, 1975

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Vol. 72 No. 7

FORT SMITH, ARKANSAS

ARKANSAS MEDICAL SOCIETY
CENTENNIAL YEAR

BECOTIN®
Vitamin B Complex

BECOTIN® with VITAMIN C
Vitamin B Complex with Vitamin C

BECOTIN®-T
Vitamin B Complex with Vitamin C, Therapeutic

MI-CEBRIN®
Vitamins-Minerals

MI-CEBRIN T®
Vitamin-Minerals Therapeutic

AND A WIDE VARIETY OF OTHER PHARMACEUTICALS



DISTA PRODUCTS COMPANY
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

LIBRARY
U.C. SAN FRANCISCO
JAN 5 1976

Both often



● Predominant psychoneurotic anxiety

● Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent

in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium[®] (diazepam) [Ⓢ]
2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Owned by
THE ARKANSAS MEDICAL SOCIETY
And Published Under Direction of the Council

ALFRED KAHN, JR., M.D., Editor
1300 West Sixth Street Little Rock, Arkansas

MR. PAUL C. SCHAEFER, Business Manager
214 North 12th Street Fort Smith, Arkansas

LITTLE ROCK BUSINESS OFFICE
114 E. Second St. Little Rock, Arkansas

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY

T. E. TOWNSEND, President	Pine Bluff
A. S. KOENIG, JR., President-Elect	Fort Smith
ASA A. CROW, First Vice President	Paragould
MAHLON O. MARIS, Second Vice President	Harrison
DONALD L. DUNCAN, Third Vice President	Texarkana
ELVIN SHUFFIELD, Secretary	Little Rock
KENNETH R. DUZAN, Treasurer	El Dorado
AMAIL CHUDY, Speaker,	
House of Delegates	North Little Rock
CHARLES F. WILKINS, JR., Vice Speaker,	
House of Delegates	Russellville
ALFRED KAHN, JR., Journal Editor	Little Rock
C. C. LONG, Delegate to AMA	Fort Smith
PURCELL SMITH, Delegate to AMA	Little Rock
JOE VERSER, Alternate Delegate to AMA	Harrisburg
T. E. TOWNSEND, Alternate Delegate to AMA	Pine Bluff
MR. PAUL C. SCHAEFER, Executive Vice President,	
P. O. Box 1208	Fort Smith

COUNCILORS

First District	JOHN B. KIRKLEY	Jonesboro
	*ELDON FAIRLEY	Osceola
Second District	JOHN E. BELL	Searcy
	*PAUL GRAY	Batesville
Third District	*L. J. P. BELL	Helena
	FRED C. INMAN, JR.	Carlisle
Fourth District	JOHN P. BURGE	Lake Village
	*RAYMOND IRWIN	Pine Bluff
Fifth District	*J. B. JAMESON, JR.	Camden
	JOHN H. MOORE	El Dorado
Sixth District	*C. LYNN HARRIS	Hope
	A. E. ANDREWS	Texarkana
Seventh District	*ROBERT F. MCCRARY	Hot Springs
	CURTIS CLARK	Sheridan
Eighth District	WILLIAM S. ORR, JR.	Little Rock
	*W. PAYTON KOLB	Little Rock
Ninth District	*HENRY V. KIRBY	Harrison
	MORRIS M. HENRY	Fayetteville
Tenth District	KEMAL KUTAIT	Fort Smith
	*C. C. LONG	Fort Smith

*Senior Councilor

The Advertising policy of this JOURNAL is governed by the PRINCIPLES OF ADVERTISING of the State Medical Journal Advertising Bureau, Inc., by the Advertising Committee of the Bureau and by the Council of the Arkansas Medical Society.

EXCLUSIVE PUBLICATION—Articles are accepted for publication on the condition that they are contributed solely to this JOURNAL.

COPYRIGHT 1975—By the JOURNAL of the Arkansas Medical Society.

NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

SCIENTIFIC ARTICLES

Ampicillin Resistant *Hemophilus*
Influenzae Meningitis in Arkansas 267
Barry Allen, M.D.,
Margaret Harrison, M.D.

Retinal Neovascularization: The
Sleeping Dog of the Eye 269
R. Sloan Wilson, M.D.,
James H. Landers, M.D.

The Anterior Pituitary and
Hypothalamic Hormones 273
Howard H. Conaway,
Michael R. Yelich

FEATURES

EKG of the Month 280
Malcolm B. Pearce, M.D.

Office Orthopaedics: Get That
Knee Going (Restoration of
Knee Function) 281
Philip H. Johnson, M.D.

Toxicology Update 285
D. Karrol Fowlkes

Arkansas Public Health at a Glance,
"Mycology Laboratory Services" 287
Robert T. Howell

Guest Editorial, "Surgery For
Coronary Artery Disease:
An Appraisal" 290
G. Doyne Williams, M.D.,
Robert T. Bulloch, M.D.,
Malcolm B. Pearce, M.D.

Medicine in the News 293

Things to Come: Announcements
In the Field of Continuing
Education 299

Personal and News Items 300

New Members 301

Obituary 302

Membership Roster 303

Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72901. Published monthly under direction of the Council, Arkansas Medical Society, Volume 72, No. 7. Subscription \$2.00 a year. Single copies 50 cents. Entered as second class matter, May 1, 1955, in the post office at Little Rock, Arkansas, under the Act of Congress of March, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 1, 1918. Second-class postage paid at Little Rock, Arkansas.

Ampicillin Resistant *Hemophilus Influenzae* Meningitis in Arkansas

Barry Allen, M.D.,* and Margaret Harrison, M.D.**

I.

Meningitis is a dreaded disease in children especially if it is due to *Hemophilus influenzae* because of its high mortality, morbidity, and neurological sequelae.¹ For the past ten years, the drug of choice for therapy has been intravenous ampicillin in ever increasing dosages.² It has been anticipated for several years that resistance of the organism to the drug would evolve. We would like to report the first proven case of ampicillin resistant *Hemophilus influenzae* meningitis in Arkansas.

II.

C. F., a two-year-old black male from Pope County was well until three days prior to his hospital admission, when he developed vomiting and subjective fever. The following day, the vomiting increased and he became quite irritable. The next day, he began pulling his right ear in addition to his other symptoms. On the day of admission, he was seen by a physician who noted nuchal rigidity. A lumbar puncture was performed. He was given 1 gram of ampicillin and referred to UAMC.

On admission, his temperature was 102.4° (R), pulse 130/minute and a respiratory rate of 60.

He was noted to be drowsy but very irritable when aroused. Other abnormal physical findings included a right otitis media and positive Brudzinski's and Kernig's signs. The lumbar puncture was repeated and blood, urine and cerebral spinal fluid (CSF) cultures were obtained. He was then begun on continuous intravenous ampicillin in a dose of 400 mg/kg/day in six divided doses. This was 2½ hours after the initial dose of ampicillin had been given.

Over the next four days, his condition remained unchanged. Because of persistence of the *Hemophilus influenzae* organism in subsequent CSF cultures (Table I) and failure of improvement clinically, his therapy was changed to intravenous chloramphenicol (100 mg/kg/day in four divided doses) before definitive organism-drug sensitivity results were obtained.

Subsequent disc sensitivity testing proved that the *Hemophilus influenzae* organism was resistant to ampicillin.*

Within 24 hours after starting chloramphenicol, the fever began to subside. He became afebrile on the fifth day (ninth day of hospitalization). Although his spinal fluid culture became negative, the patient showed little clinical

*Pediatric Resident, University of Arkansas College of Medicine.
**Assistant Professor, Department of Pediatrics, University of Arkansas College of Medicine, 430t West Markham, Little Rock, Arkansas 72201.

*Confirmed by the Communicable Disease Center in Atlanta, Georgia.

TABLE I

	2/24	2/24	2/27	3/1	3/4	3/6	3/13
Blood culture	+	—	—	—	—	—	—
CSF culture	+	+	+	+	—	—	—
CSF cell count (WBCs/% polys)	4100/76*	362/72	130/21	540/70	350/9	240/66	6/100
CSF sugar	6 mg%	12 mg%	25 mg%	41 mg%	45 mg%	50 mg%	57 mg%
CSF protein	QNS	88 mg%	65 mg%	65 mg%	92 mg%	68 mg%	16 mg%

* CSF count from Russellville
+ culture positive for growth
WBCs — white blood cells per cubic millimeter
% polys — percent polymorphonuclear cells per white blood cell

improvement and presently is severely neurologically impaired.

III.

Since December, 1973, there have been 24 reported cases in children of *Hemophilus influenzae* meningitis resistant to ampicillin.³ Most of these children have died or have had severe neurological sequelae. To date, most of the cases have been confined to the eastern coastal area of the United States. A few sporadic cases have appeared more inland.

IV.

We have now seen the emergence of resistance of this organism to ampicillin in Arkansas. The only acceptable alternate therapy is intravenous chloramphenicol, as it easily passes the blood-brain barrier. Although the organism is usually sensitive in vitro to the cephalosporins, these drugs are not effective treatment as they do not cross the blood-brain barrier.

In areas where cases have been proven resistant, the initial treatment of meningitis consists of the combination of aqueous ampicillin and chloramphenicol and the discontinuance of one of the drugs when the culture results are obtained. This, of course, in combination with sulfa drugs, was the treatment of choice before the advent of ampicillin. Aqueous penicillin and chloramphenicol may again be the drugs of choice in the future.

There is some evidence that penicillin and chloramphenicol administered together might compromise the action of penicillin. The reason for this concern is that penicillin is a bactericidal agent and chloramphenicol is a bacteriostatic agent. Studies suggest that antagonism was likely to occur when combination of drugs were given in doses that produce levels of inhibition of the site of infection.⁴

If there are significant reasons for the use of the combination of penicillin and chloramphenicol, they should be used in full therapeutic doses. If one uses the drugs in combination, they should be used simultaneously or the penicillin should be administered prior to the chloramphenicol.⁵ In this manner, any adverse effect on the antibacterial activity of the penicillin is limited.

Chloramphenicol is now the recommended drug of choice in those areas where *Hemophilus*

influenzae has been shown resistant to ampicillin.⁶ In using chloramphenicol, one must be aware of the incidence of aplastic anemia secondary to its use. The mechanism of chloramphenicol in the etiology of aplastic anemia has been described and is thought to be an individual biochemical predisposition involving DNA synthesis.⁷ Chloramphenicol is an important drug in *Hemophilus influenzae* meningitis but because of its potential danger, it should be used only in life threatening infections and if no other antibiotic is effective.

More cases of *Hemophilus influenzae* meningitis resistant to ampicillin can be anticipated, but not in great numbers, in the near future. Ampicillin is still the drug of choice in Arkansas, however, one should not hesitate to use chloramphenicol if the child did not respond clinically to ampicillin or if there was conclusive laboratory evidence of its resistance to the drug.⁸

SUMMARY

The first case of *Hemophilus influenzae* meningitis resistant to ampicillin has been reported. Ampicillin intravenously at 400 mg/kg day in six divided doses is still the drug of choice but one should not hesitate to begin chloramphenicol IV at 100 mg/kg/day in four divided doses if there is no clinical response after an adequate trial of ampicillin.

REFERENCES

1. Azerrad, J., Merrill, R. E., Sproles, E. T., Williamson, C.: Meningitis due to *Hemophilus influenzae*: Long term sequelae. *J. of Ped.* 75:782-788. No. 5, 1969.
2. McCracken, G. H., Eichenwald, H. F.: Antimicrobial therapy, therapeutic recommendations and a review of newer drugs. *J. of Ped.* 85:297-312. No. 3, 1974.
3. *Morbidity and Mortality*, Vol. 23, No. 9, March 2, 1974.
4. Committee on Infectious Disease, Ampicillin-resistant strains of *Hemophilus influenzae* type B. *Pediatrics* 55:145-146. No. 1, 1975.
5. Committee on Infectious Disease, Ampicillin-resistant strains of *Hemophilus influenzae* type B. *Pediatrics* 55:145-146. No. 1, 1975.
6. Emerson, B. B., Harding, A. L., Smith, A. L., Smith, D. H.: *Hemophilus influenzae* type B susceptibility to 17 antibiotics. *J. of Ped.* 86:617-623. No. 4, 1975.
7. Yunis, A. A.: Chloramphenicol-induced bone marrow suppression. *Seminars in Hematology* 10:225-234, No. 3, 1973.
8. Klein, J. O.: Current usage of antimicrobial combinations in pediatrics. *Pediatric Clinics of North America* 21:443-455. No. 2, 1974.



Retinal Neovascularization: The Sleeping Dog of the Eye

R. Sloan Wilson, M.D.,* and James H. Landers, M.D.*

Introduction

Retinal neovascularization is an *asymptomatic treatable* ophthalmoscopic finding. It may develop in a variety of diseases which, if undiagnosed and untreated, may lead to blindness. This paper will discuss the common disease states which may develop retinal neovascularization and emphasizes the importance of careful ophthalmoscopic examination for its detection. Although the causative diseases may differ, the basic pathophysiology and natural history of retinal neovascularization seem to follow a common course. Photocoagulation obliterates neovascularization if it is confined to the retinal surface, reducing the incidence of vitreous hemorrhage, retinitis proliferans and secondary retinal detachment.

Case History #1

A 48-year-old male was seen on a routine eye examination. He was in good health with no past history of surgical or ophthalmological problems. He did give a history of mild hypertension but was on no medication.

His uncorrected visual acuity was 20/20 in each eye. External, extraocular muscle and slit lamp examinations were normal. Intraocular pressures were 14 mm Hg by applanation tonometry.

The eyes were dilated, using 10% Neo-Syneprine and 1% Mydracyl ophthalmic drops. In the right eye there was noted along the inferior temporal vein small patches of "red lace" like neovascularization (Fig. 1). A diagnosis of branch vein occlusion was made.

This patient was subsequently treated with the Argon laser photocoagulator, destroying these neovascular areas by direct photocoagulation (Fig. 2).

Case History #2

A 38-year-old female presented to the Retinal Service with a 15 year history of diabetes mellitus. Presently, she was well controlled on

35 units of NPH (U-100) insulin per day. She had no ocular complaints.

Her visual acuity was 20/20 in each eye and her eye examination was normal except for the fundus examination.

On direct ophthalmoscopy, she was found to have multiple dot hemorrhages in the posterior pole, with areas of "retinal neovascularization" along the inferior and superior temporal veins (Fig. 3). O'Hare classification $BH_0N_2F_0$.

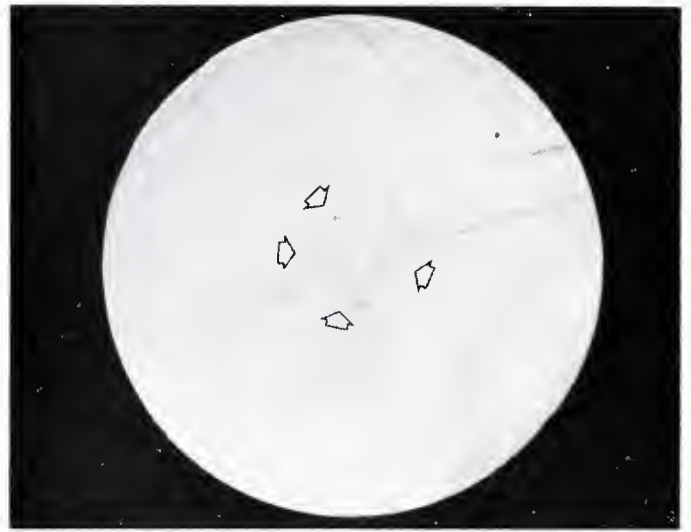


Figure 1
Small patch of flat neovascularization in a patient with a branch vein occlusion.



Figure 2
Neovascularization after treatment with Argon laser photocoagulator.

*Retina Service, Dept. of Ophthalmology, University of Arkansas College of Medicine, and the Veterans Administration Hospital, Little Rock, Arkansas.

This patient was treated with the Xenon arc photocoagulator in both a direct and indirect technique (pan retinal photocoagulation) (Fig. 4).

Ophthalmoscopic Appearance of Retinal Neovascularization

Retinal neovascularization arises from capillaries and retinal veins. These new vessels have an irregular but fine architecture when compared to normal vessels. It resembles the coral "sea fan" or fine red lace which, with time, may grow out of the plane of the retina and into the vitreous. The size, shape, and location in the eye vary slightly with the basic disease and individual variation.

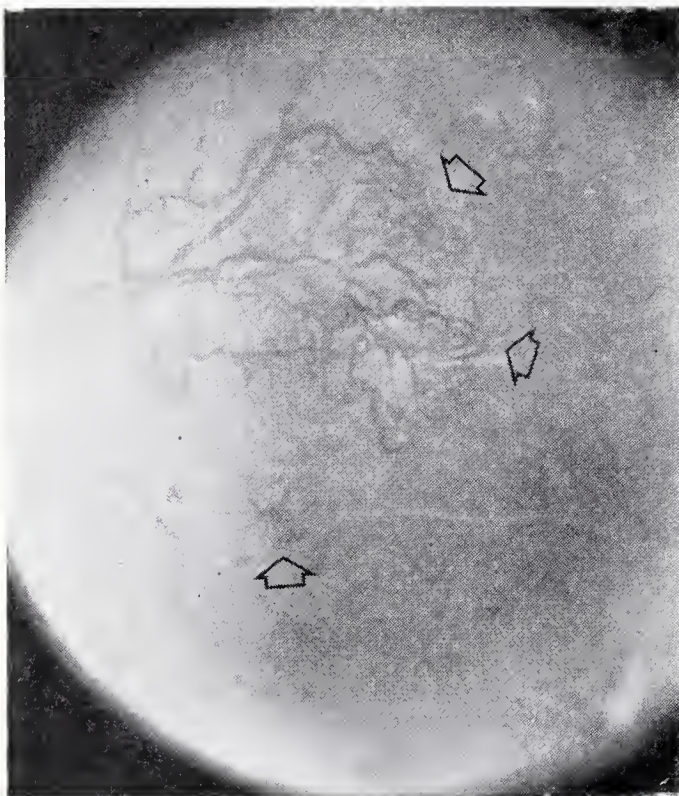


Figure 3
Retinal neovascularization in a patient with diabetic retinopathy.



Figure 4
Neovascularization immediately following treatment with Xenon Arc photocoagulation.

The Pathophysiology

1. Vascular obstruction
2. Retinal Ischemia
3. A-V Anastomosis
4. Neovascularization

Natural History

Since these new blood vessels are fragile and weak, and lie on the retinal surface, excessive intravascular pressure might cause rupture and hemorrhage into the vitreous. Eventually retinitis proliferans and retinal detachment may occur.

Diseases Which Cause Neovascularization

Diabetes Mellitus accounts for 14% of new cases of blindness. Diabetic retinopathy can be expected to develop in 50% of all diabetics and in 90% with the disease more than eighteen years. Twenty percent of patients with diabetes of more than ten years will have proliferative retinopathy with retinal neovascularization. The neovascularization is posterior, often near the optic nerve. It is usually bilateral.¹

We use the O'Hare classification of diabetic retinopathy. The following four characteristics are considered in this classification system: 1) background retinopathy, 2) vitreous hemorrhage, 3) new vessels, 4) fibrous proliferation. The letters B, H, N, and F are used to designate the four features of the retinopathy (Table 1).

Table 1

O'Hare Classification

- | | |
|----------------|--|
| B | Background retinopathy (intraretinal hemorrhages, microaneurysms, hard and soft exudates, venous abnormalities and macula edema) |
| H ₀ | No vitreous hemorrhage |
| H ₁ | Vitreous hemorrhage present but retina can be seen well enough to classify |
| H ₂ | Vitreous hemorrhage that obscures the fundus details |
| N ₀ | No neovascularization (new vessels) |
| N ₁ | Four or fewer discrete patches and/or four or less disc areas of neovascularization |
| N ₂ | More than four discrete patches and/or greater than four disc areas of neovascularization |
| F ₀ | No fibrous proliferation into vitreous cavity |
| F ₁ | Four or fewer discrete patches of fibrous proliferation into the vitreous or a total area of proliferation four or less disc areas in size |
| F ₂ | Fibrous proliferation into the vitreous cavity, quantity greater than F ₁ |

Branch Vein Occlusion is usually seen in older arteriosclerotic patients, frequently associated with hypertension, glaucoma or diabetes mellitus. Retinal neovascularization may develop slowly over several months following the initial occlusion. The neovascularization is limited to the region drained by the obstructed vein or an area immediately adjacent to it.²

Sickle Cell retinopathy has been reported in SA, SS, SC and Sthal forms, but is seen most commonly in Sickle Cell Hemoglobin C disease (SC). The neovascularization is bilateral, but usually more advanced in one eye. It starts peripherally, temporally as a rule, and progresses posteriorly.³

Coats' Disease is a rare unilateral ocular condition characterized by retinal exudation and telangiectasis primarily in male children. The neovascularization is located peripherally, but exudates may appear near the macula or nerve head.⁴

Eales' Disease is another rare condition predominantly affecting otherwise healthy young adult males. The retinopathy initially shows perivasculitis which progresses to retinal neovascularization. The neovascularization is usually in the peripheral retina. The etiology is obscure, but it may be associated with collagenosis or tuberculosis.⁵

Treatment

Retinal neovascularization is treated by photocoagulation.^{1,5} This can be done with either the Argon Laser or the Xenon Arc (Figs. 5 and 6). Photocoagulation affects neovascularization in two ways:

Direct—obliterates new vessels (Fig. 7).

Indirect—destroys nearby retina and the stimulus for neovascularization (Fig. 8). Coagulation seals potential ruptures and discourages additional neovascularization.

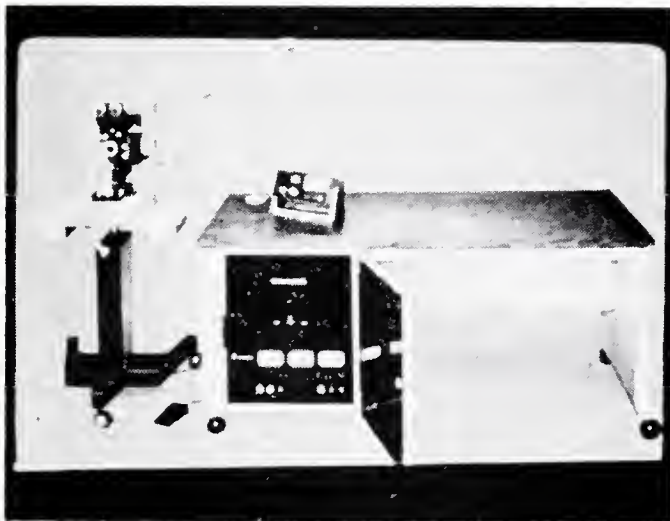


Figure 5
Argon laser photocoagulator.

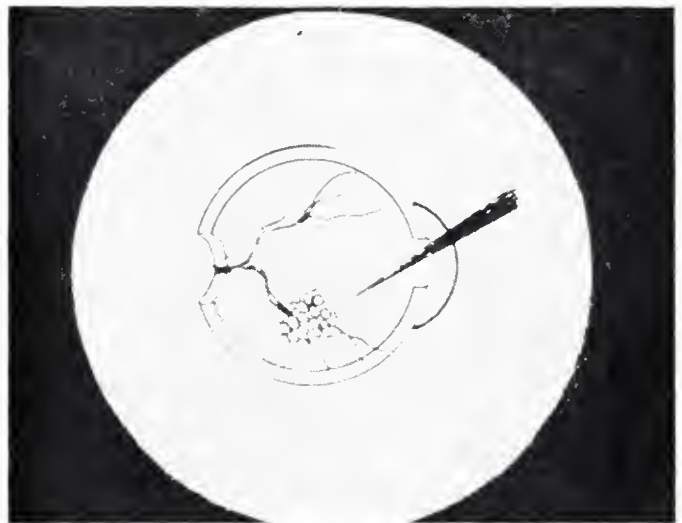


Figure 7
Drawing of "Direct" coagulation of neovascularization.

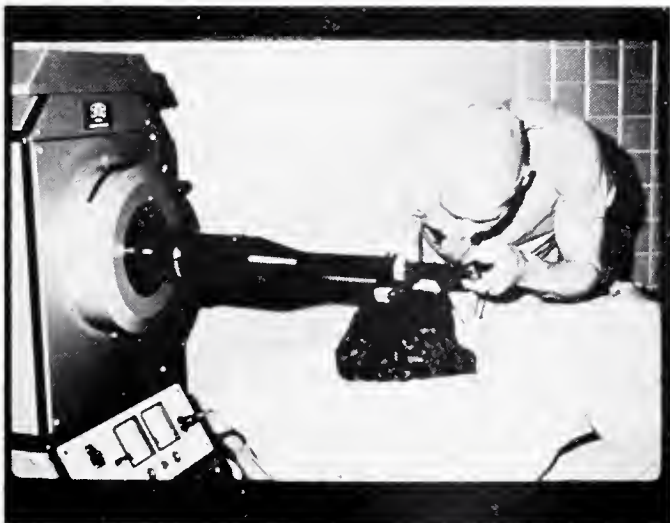


Figure 6
Xenon Arc photocoagulator in use.

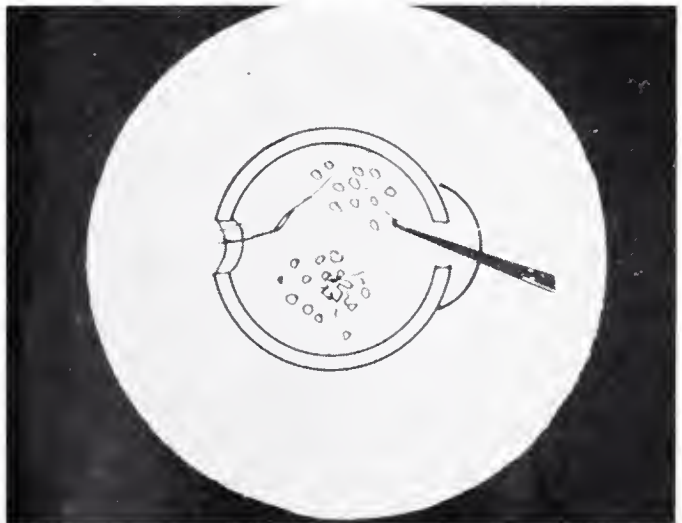


Figure 8
Drawing of "Indirect" coagulation (pan retinal photocoagulation).

Contraindications

1. Uncontrolled systemic hypertension
2. Patients on anticoagulant drugs
3. Patients in the F2 category (O'Hare classification)
4. Hazy media (corneal opacity, dense cataract and vitreous hemorrhages which block an adequate view of the retina)

Complications

Most complications occur with treatment of advanced stages of diabetic retinopathy. Complications are very rare with treatment of early disease. They include:

1. mild iritis
2. vitreous hemorrhage
3. traction type of retinal detachment
4. occlusion of arteries and veins
5. optic neuritis
6. exudative retinal detachment

Summary

Retinal neovascularization is an asymptomatic ophthalmoscopic finding in a variety of diseases. In the early stages, retinal neovascularization can be successfully treated using the Xenon Arc or Argon laser photocoagulators. Early diagnosis is important in the success of the treatment and the prevention of blindness in these patients.

REFERENCES

1. Okun, E., Johnston, G. P., Boniuk, I.: Management of diabetic retinopathy: A stereoscopic presentation. St. Louis, Mosby, 1971.
2. Kelley, J. S., Patz, A., Schatz, H.: Management of retinal branch vein occlusion: The role of argon laser photocoagulation. *Ann. Ophthalmol.* 6:1123-1134, 1974.
3. Goldberg, M. F.: Natural history of untreated proliferative sickle retinopathy. *Arch. Ophthalmol.* 85:428-437, 1971.
4. Wise, G. N., Dollery, D. T., Henkind, P.: The retinal circulation. New York, Harper & Row, 1971.
5. Henry, M. M.: Treatment of diabetic retinopathy by photocoagulation (Editorial). *The J. Ark. Med. Soc.* 69: No. 9, 1973.



The Anterior Pituitary and Hypothalamic Hormones ***

Howard H. Conaway,* and Michael R. Yelich**

The Anterior Pituitary and Hypothalamic Hormones

The pituitary gland (or hypophysis) is located at the base of the brain in a depression of the sphenoid bone known as the sella turcica. It is a relatively small endocrine organ of man encompassing an area less than 1 cm³ and having an average weight of 0.5 gm.

The pituitary is a compound gland of ectodermal origin. The glandular portion, the anterior pituitary, arises early in embryonic life as an evagination from the roof of the pharynx known as Rathke's pouch. Rathke's pouch fuses with a second evagination of embryonic tissue arising from the floor of the third ventricle which is destined to become the posterior pituitary. The posterior pituitary retains an essentially neural character throughout life, receiving an abundant neurosecretory fiber supply from cell bodies located in the supraoptic and paraventricular nuclei of the hypothalamus. The hormones oxytocin and vasopressin (ADH) are made in these cell bodies, transported down "peptidergic" neurosecretory fibers to the posterior pituitary, and subsequently released from the ends of these axons following nerve action potentials. The anterior pituitary, on the other hand, receives no direct neurosecretory fiber innervation from the hypothalamus. The embryonic tissue of Rathke's pouch undergoes extensive development culminating in the formation of distinct anterior pituitary cells responsible for the synthesis of at least seven polypeptide and protein hormones, the secretions of which are believed to be controlled to a large extent by a group of small, blood-born polypeptides which reach the anterior pituitary by way of the hypophyseal portal system.

Anatomy

The conventional anatomical features of the pituitary are depicted in Figure 1. The pituitary is bounded anteriorly by the optic chiasm and posteriorly by the mammillary bodies. In most species the pars tuberalis completely surrounds

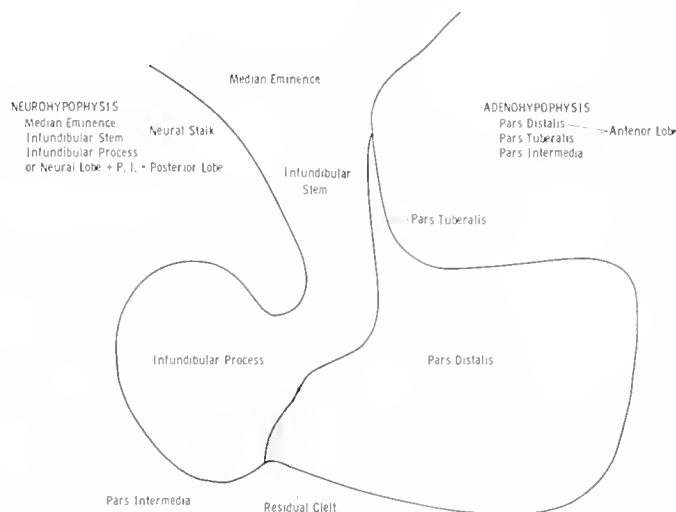


Figure 1
Mid-sagittal view showing the conventional anatomical features of the hypophysis.

the neural stalk. However, in man the pars tuberalis consists of a thin cloak of cells located on the anterior portion of the stalk. The pars intermedia can be defined as a distinct entity separated from the pars distalis by the residual cleft in most vertebrates, but is virtually absent in man. The remnant of the lumen of Rathke's pouch, the residual cleft, can be noted in the human as small colloid filled cysts at the junction of the pars distalis and the neurohypophysis. Although the median eminence and infundibular stem are anatomically classified as parts of the neurohypophysis and transversed by axons of supraoptic and paraventricular origin, these areas are closely associated with adenohypophysial function.

Blood Supply — The Hypophysial Portal System

Blood is supplied to the pituitary by way of superior and inferior hypophysial arteries which arise from the internal carotids and the rostral portion of the posteromedial group of the cerebral circle. The blood to the anterior pituitary can be described as flowing from capillaries, to veins, to capillaries without going through the heart and is thus designated as a portal system. Superior hypophysial arteries form an extensive vascular network in the area of the median eminence and infundibular stem (Figure 2). In man, the capillaries of this vascular network, the primary plexus, form loops which are part of spiral structures known as gomitioli. The primary plexus is drained by long portal veins which course down the anterior portion of the

*Assistant Professor.
**Predoctoral Fellow.

Department of Physiology and Biophysics, University of Arkansas College of Medicine, 4301 West Markham, Little Rock, Arkansas 72201.

***This work was taken in part from a seminar series on the hypothalamic regulation of anterior pituitary function and was supported in part by NIH Metabolic Training Grant #AM05635.

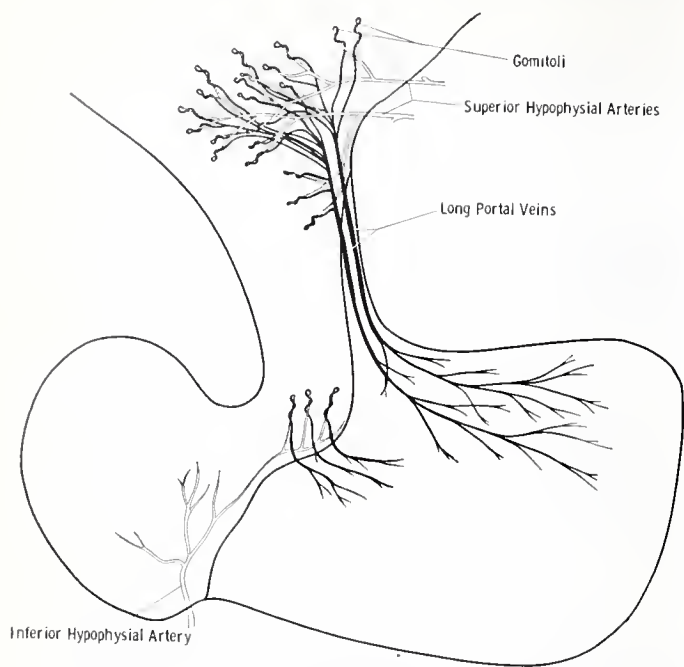


Figure 2
Diagrammatic representation of the blood supply of the adenohypophysis.

stalk carrying blood to anterior pituitary sinusoidal capillaries. The blood supply of the posterior pituitary, originating by way of inferior hypophyseal arteries, is generally considered to be mainly separate from that of the anterior pituitary. However, small branches from the inferior hypophyseal arteries terminate in a capillary plexus in the lower portion of the infundibular stem with blood entering short portal vessels which drain almost directly into anterior pituitary sinusoids. Venous blood from both the anterior and posterior pituitary drains into the cavernous sinus.

The Portal – Vessel Chemotransmitter Hypothesis

Besides the axons of supraoptic and paraventricular origin which transverse the neurohypophysis, a large number of neurosecretory fibers from cell bodies located principally in the ventral hypothalamus terminate in the median eminence and infundibular stem. Small polypeptides are believed to be elaborated from the terminations of these axons and carried to the adenohypophysis by way of the hypophyseal portal system where they act to release or inhibit the release of anterior pituitary hormones. Currently, releasing factors (or releasing hormones) are believed to exist for ACTH, TSH, FSH, LH, STH, Prolactin and MSH; inhibitory factors (or inhibitory hormones) are proposed for STH, Prolactin and MSH (Table 1). Not only are the releasing and inhibiting hormones believed to modulate the secretion of anterior pituitary hor-

TABLE 1

<i>Hypothalamic Hormones</i>	<i>Adenohypophysial Hormones</i>
Corticotropin releasing factor (CRF)	ACTH (adrenocortical trophic hormone)
Thyrotropin releasing factor (TRF)	TSH (thyroid stimulating hormone)
Follicle stimulating hormone releasing factor (FRF)	FSH (follicle stimulating hormone)
Luteinizing hormone releasing factor (LRF)	LH (luteinizing hormone)
Somatotropin releasing factor (SRF) (GRF)	STH (GH) (growth hormone)
Somatotropin inhibitory factor (SIF) (GIF)	STH (GH) (growth hormone)
Prolactin inhibiting factor (PIF)	Prolactin
Prolactin releasing factor (PRF)	Prolactin
Melanocyte stimulating hormone releasing factor (MRF)	MSH (melanocyte stimulating hormone)
Melanocyte stimulating hormone inhibiting factor (MIF)	MSH (melanocyte stimulating hormone)
<i>Structures of Hypothalamic Hormones</i>	
TRF	pGlu-His-Pro-NH ₂
LH-FSH-RF	pGlu-His-Trp-Ser-Tyr-Gly-Leu-Arg-Pro-Gly-NH ₂
GIF	H-Ala-Gly-Cys-Lys-Asn-Phe-Phe-Trp-Lys-Thr-Phe-Thr-Ser-Cys-OH

mones, there is also data suggesting that some of these factors may effect the biosynthesis of pituitary hormones as well.

**Releasing and Inhibiting Hormones
CRF**

In the 1950's it was found that hypothalamic extracts would cause both the *in vivo* and *in vitro* release of ACTH from anterior pituitary tissue. Although this was the first demonstration of a hypothalamic substance releasing an adenohypophysial hormone, this factor (CRF) has not presently been characterized because of its instability and difficulty of assay. Since the active fraction of hypothalamic extracts which elicits ACTH release can be destroyed by some proteolytic enzymes, CRF is believed to be a polypeptide. Some of the early work suggested that vasopressin might be CRF, but more recent observations seem clearly to indicate that vasopressin and ACTH are regulated by separate hypothalamic mechanisms.

In addition to there being a CRF of neural origin, evidence has now been presented for the existence of CRF released from extra-

hypothalamic tissue. In experimental animals the response to acute stress is characterized by acute corticosteroid secretion mediated by hypothalamic CRF. In hypothalamically lesioned animals subjected to stress the increase in corticosteroid secretion is more delayed and prolonged. This pattern of response has been suggested to be due to "tissue CRF". In situations of inappropriate hypothalamic modulation or with chronic, severe trauma, it is theorized that tissue CRF may play an important physiological role in mediating pituitary-adrenal secretions.

TRF

The first major success in elucidating the chemical nature of releasing hormones was achieved in 1966 when it was found that TRF isolated from porcine hypothalamic nuclei consisted of three amino acids—histidine, proline, and glutamic acid—in equimolar ratio. The amino acid sequence and structure of TRF were subsequently determined, followed closely by the synthesis of the tripeptide in 1969 (Table 1). The molecular structure of ovine TRF has been shown to be the same as that for the porcine molecule, and bovine and human TRF's are similarly believed to be tripeptides of identical structure. No variance in the biological activity of purified TRF and synthetic TRF has been noted. The $\frac{1}{2}$ life of the tripeptide is four minutes.

Synthetic TRF has been used extensively in the past few years for experimental and clinical purposes and will soon be available commercially. The peptide has been shown to be effective in promoting the release of TSH in all mammals thus far tested, with increased secretion of TSH following hypophyseal portal perfusion of small, presumably physiological, dosages of TRF adding strong support for the validation of the chemo-transmitter hypothesis.

An increase in TSH secretion following oral or intravenous TRF administration has been thoroughly documented in normal humans. Responsiveness to TRF is independent to sex, but dependent upon age and the circulating concentrations of the thyroid hormones. Older males have been shown to secrete less TSH following TRF than younger subjects, and administration of T_3 or T_4 decreases or inhibits the secretion of TSH elicited by TRF. The effect of thyroid hormones on TRF responsiveness has not only been documented in normal subjects, but also

in various pathological conditions. Hyperthyroid subjects showing a low baseline secretion of TSH usually do not respond to TRF, but patients with primary hypothyroidism and high baseline TSH secretion usually show an exaggerated response. Perhaps the most important clinical use of TRF to date has been as a diagnostic tool. TRF is now being routinely administered in some laboratories as a test of pituitary reserve and to distinguish hypothalamic from pituitary hypothyroidism.

Not only has TRF been clearly shown to stimulate the secretion of TSH, the tripeptide has been reported to provoke GH release in the rat, cow, and acromegalic and uremic human subjects. TRF has also been noted to elicit FSH secretion in men, but not women, and prolactin release in cattle, sheep, monkeys, and normal male and female human subjects. Prolactin release stimulated by TRF in mammals seems to be species specific. There is no increase of serum prolactin in rats following TRF. In man TRF elicits a stimulus for prolactin secretion which is as potent and rapid as that for TSH. In a somewhat analogous fashion to TSH secretion, thyroid status also plays a role in the secretion of prolactin elicited by TRF. A comparison of hyperthyroid and primary hypothyroid individuals before and after the attainment of the euthyroid state, following antithyroid therapy or thyroid hormone medication, has shown that the secretion of prolactin in response to TRF administration varies with the blood levels of T_3 and T_4 . With high levels of the thyroid hormones the secretion of prolactin is depressed, but with low levels of T_3 and T_4 prolactin secretion is potentiated. The inhibition of prolactin secretion by T_3 and T_4 is not, however, as dramatic as that noted for TSH. Prolactin secretion stimulated by TRF in normal subjects after treatment with T_3 and T_4 daily for three to four weeks is not significantly depressed, but TRF-induced secretion is dramatically reduced.

The answer to whether or not TRF is a physiologically important release factor for prolactin, or other anterior pituitary hormones besides TSH, awaits further experimentation.

PIF and PRF

It has been believed for a number of years that prolactin secretion in many mammals, including man, is tonically inhibited by a hypothalamic PIF. Early experiments in animals established

that transplantation of the pituitary to a site removed from the base of the brain led to an increase in prolactin secretion, but a decreased secretion of all other anterior pituitary hormones; the development of galactorrhea after pituitary stalk section could best be explained by the release of prolactin producing cells from an inhibitory influence of hypothalamic origin. However, although a great deal of work has subsequently been done in this area, the chemical nature of the factor has not yet been elucidated. Attempts to characterize PIF have been hampered by the lack of simple assays for PIF and prolactin. The recent development of radioimmunoassays for prolactin have made it possible for investigators to confirm earlier reports, based upon bioassay, showing inhibition of prolactin secretion in rats induced by hypothalamic extracts, and should prove to be a valuable aid in future attempts at isolation and characterization of PIF.

In addition to a hypothalamic PIF regulating prolactin secretion, it has been reported that hypothalamic extracts contain a substance which will cause the release of prolactin. While TRF can be postulated as a possible hypothalamic regulatory hormone controlling prolactin secretion, evidence showing a stimulation of prolactin release by porcine hypothalamic extracts from which TRF had been removed suggests that a non-TRF prolactin releasing hormone may also be present in the hypothalamus.

The brisk secretion of prolactin in response to suckling in women clearly cannot be attributed solely to TRF release. TSH, prolactin, and thyroid hormone levels have been measured in post-partum women following either suckling or the administration of TRF. Suckling caused an increased secretion of prolactin, but no change in TSH or T_3 and T_4 levels. TRF increased both TSH and prolactin levels without effecting T_3 and T_4 concentrations. (Acute increases in TSH concentrations following single injections of TRF have generally not been noted to provoke significant changes in T_3 and T_4 levels). Thus, the secretion of prolactin following suckling in the human can be theorized to be due to decreased secretion of PIF or, conversely, to the release of a non-TRF prolactin releasing factor. However, it cannot be entirely ruled out that TRF is releasing prolactin but not TSH during suckling if one postulates the concomitant release of a hypothalamic hormone that would inhibit only

the release of TSH. GIF, or somatostatin, has been reported to possess such inhibitory properties in man. With the administration of both GIF and TRF it has been shown that TSH secretion is inhibited while prolactin secretion increases.

GRF and GIF

Although some controversy exists in the early literature concerning the isolation of a GRF, reports in the past three to four years seem to have established the existence of a factor (presumably a small polypeptide) in the hypothalamus which can elicit the release of growth hormone. Hypothalamic extracts of rats, pigs, and sheep have been noted to cause either an increased secretion of immunoreactive growth hormone in intact animals or an increased *in vitro* release of immunoreactive growth hormone from incubated pituitary fragments.

As with the control of prolactin secretion, growth hormone release is believed to be regulated by not only a releasing factor, but also an inhibitory factor from the hypothalamus. The existence of GIF was first postulated in 1968. In 1972 ovine GIF (somatostatin) was purified and synthesized. Its structure is shown in Table I. The biological half-life of the tetradecapeptide is extremely short, only about four minutes.

It has now been established that somatostatin will inhibit growth hormone secretion in animals such as the rat, dog, and baboon. In normal adult human subjects the elevations in blood growth hormone levels usually seen following L-dopa, arginine, sleep, and exercise are blocked following somatostatin administration. GIF will also inhibit growth hormone secretion stimulated by hypoglycemia, but will not block prolactin, ACTH, or corticosteroid increases, nor alter basal LH, FSH, and TSH concentrations. The release of LH and FSH stimulated by gonadotropin releasing hormone (LH-FSH-RF) in humans is unaffected by somatostatin. Although somatostatin also has no effect upon prolactin secretion stimulated by TRF, it inhibits the TRF induced secretions of TSH and FSH.

The actions of somatostatin are not limited to the pituitary. A decrease in the basal levels of glucose, insulin, and glucagon has also been reported following GIF administration. The hypoinsulinemia has been suggested to be due to a direct inhibitory action of somatostatin at the level of the pancreas while the hypoglucagonemia

may be the result of somatostatin acting at both the pancreas and gut. Somatostatin has been shown to inhibit both glucose-induced insulin secretion and arginine-induced insulin and glucagon secretion in normal human subjects. In the isolated perfused dog pancreas, somatostatin inhibits both the stimulation of insulin induced by high glucose concentrations and that of glucagon in response to low glucose concentrations. In the totally depancreatized dog, somatostatin inhibits the secretion of "pancreatic-like" glucagon which is presumably elaborated from the newly described gastrointestinal "A" cells. While the extra-pituitary actions of somatostatin can no doubt be considered as pharmacological in nature, some clinical investigators have recently proposed that somatostatin may prove to be a valuable adjunct to therapy for the diabetic patient.

In acromegaly the chronic hypersecretion of growth hormone is dramatically reduced during somatostatin infusion. Free fatty acid levels have been noted to increase, and plasma insulin, glucose, and prolactin levels to decrease. The paradoxical rise in growth hormone secretion often noted in acromegalic patients subjected to a glucose challenge has also been reported to be suppressed.

LH-FSH-RF

Luteinizing hormone releasing factors were purified from bovine and ovine hypothalami in 1970. The primary structures for the two peptides were determined to be identical, and the synthesis of the decapeptide was reported in 1971 (Table I). The synthetic peptide was found to release not only LH but also FSH, confirming earlier reports of the dualistic potential of natural, purified LH-RF. The peptide has now been thoroughly documented as stimulating the secretion of both LH and FSH in animals and man. To date, no other factors possessing solely LH or FSH releasing activity in both the male and female have been isolated from the hypothalamus. For these reasons LH-RF is commonly referred to in the literature as LH-FSH-RF. The hormone is not believed to directly effect the secretion of GH, ACTH, TSH or prolactin. Administration of the peptide has been noted to induce ovulation in experimental animals and in anovulatory women. Prolonged treatment of the male has suggested that LH-FSH-RF may prove to be of some use in the treatment of

oligospermia and azospermia. [An analysis of clinical studies with LH-FSH-RF has recently been published (Reference 1)].

Current evidence favors the concept that circulating concentrations of sex steroids play a role in modulating the endogenous secretion of LH-FSH-RF as well as the sensitivity of the pituitary to the hormone. The feedback controls of the sex steroids in both the male and female are complex, however, and a clear description of the relationships between the various steroids, LH-FSH-RF, LH and FSH cannot yet be presented. In normal cycling women, bioassay of plasma for LH-RF has demonstrated elevated levels during the midcycle LH surge. In animals such as the rat, LH-FSH-RF is most potent during proestrus. In the rhesus monkey and normal women, LH-FSH-RF elicits the greatest release of gonadotropins at midcycle.

MIF and MRF

Evidence suggesting that MSH secretion is tonically controlled by an inhibitory factor from the hypothalamus has been presented for both amphibians and mammals, but controversy exists as to the nature of this factor. Two peptides isolated from bovine hypothalamic extracts, MIF-I, H-Pro-Leu-Gly-NH₂, which is the tripeptide c-terminus of oxytocin and MIF-II, H-Pro-His-Phe-Arg-Gly-NH₂, have been proposed as the hypothalamic factor(s). MIF-I is much more active as determined by a bioassay based on skin color variation in frogs. Tocinoic acid, H-Cys-Tyr-Ile-Gln-Asn-Cys-OH, the pentapeptide ring of oxytocin has also been proposed as MIF. Tocinoic acid has been reported to be highly active in a bioassay using rat pituitary tissue, but for MIF-I to be inactive.

The pentapeptide fragment of oxytocin, H-Cys-Tyr-Ile-Gln-Asn-OH, has been isolated from hypothalamic tissue and suggested to be MRF.

REFERENCES

1. Reichlin, S.: Neuroendocrinology. In: *Textbook of Endocrinology*, edited by R. H. Williams, W. B. Saunders Company, Philadelphia. 1974. p. 774-831.
2. Schally, A. V., Arimura, A., Kastin, A. J.: Hypothalamic regulatory hormones. *Science*, 179:341-350, 1973.
3. Blackwell, R. E., and Guillemin, R.: Hypothalamic control of adenohypophyseal secretions. *Ann. Rev. Physiol.*, 35:357-390, 1973.
4. Frohman, L. A., and Stachura, M. E.: Neuropharmacologic control of neuroendocrine function in man. *Metabolism*, 24:211-234, 1975.
5. Lymangrover, J. R., and Brodish, A.: Physiological

FOR LEASE

4,000 square feet medical building. Equipment and furniture available. Ideal for two or three man group. Located across street from 300 bed St. Bernard's Regional Medical Center, Jonesboro, Arkansas.

Smaller medical building available in same area.

Contact: P. T. Stroud, M.D.
Telephone: 501 932-8323 or
501 932-3284

FOR SALE

All white Hamilton examining table with gray padded vinyl top, adjustable head, has two drawers. Like New. All metal Hamilton treatment table with formica top, like new. Green colored continental scales in excellent condition. Dazor floor model incandescent lamp with heavy base, fully adjustable, in excellent condition.

Great savings and priced to sell. If interested call:

Dallas D. Miles, M.D.
Fort Roots VA Hospital
North Little Rock, Arkansas 72114
501 372-8361 Ext. 623

PHYSICIAN

We are one of America's largest health care corporations. Currently we are seeking a part-time licensed M.D. as attending physician for our plasma donor center in Little Rock, Arkansas.

Responsibilities include performing physicals in conjunction with donor screening and evaluation. Our requirements are flexible and we will consider retired physicians as well as those desiring to work on a contract basis. We offer excellent working conditions, top benefits, and a highly competitive salary. Please write to:

MR. GARY SKYBROCK
PERSONNEL MANAGER
ABBOTT SCIENTIFIC PRODUCTS
820 Mission Street
So. Pasadena, Ca. 91030
Equal Opportunity Employer Male/Female

IMPORTANT INFORMATION: This is a Schedule V substance by Federal law; diphenoxylate HCl is chemically related to meperidine. In case of overdosage or individual hypersensitivity, reactions similar to those after meperidine or morphine overdosage may occur; treatment is similar to that for meperidine or morphine intoxication (prolonged and careful monitoring). Respiratory depression may recur in spite of an initial response to Nalline® (nalorphine HCl) or Narcan® (naloxone HCl) or may be evidenced as late as 30 hours after ingestion. LOMOTIL IS NOT AN INNOCUOUS DRUG AND DOSAGE RECOMMENDATIONS SHOULD BE STRICTLY ADHERED TO, ESPECIALLY IN CHILDREN. THIS MEDICATION SHOULD BE KEPT OUT OF REACH OF CHILDREN.

Indications: Lomotil is effective as adjunctive therapy in the management of diarrhea.

Contraindications: In children less than 2 years, due to the decreased safety margin in younger age groups, and in patients who are jaundiced or hypersensitive to diphenoxylate HCl or atropine.

Warnings: Use with special caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis. In severe dehydration or electrolyte imbalance, withhold Lomotil until corrective therapy has been initiated.

Usage in pregnancy: Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the breast milk of nursing mothers.

Precautions: Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs or known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage. Use with care in patients with acute ulcerative colitis and discontinue use if abdominal distention or other symptoms develop.

Adverse reactions: Atropine effects include dryness of skin and mucous membranes, flushing, hyperthermia, tachycardia and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy, anorexia, restlessness, euphoria, pruritus, angioneurotic edema, giant urticaria, paralytic ileus, and toxic megacolon.

Dosage and administration: Lomotil is contraindicated in children less than 2 years old. Use only Lomotil liquid for children 2 to 12 years old. For ages 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 4 ml. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml., 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

Overdosage: Keep the medication out of the reach of children since accidental overdosage may cause severe, even fatal, respiratory depression. Signs of overdosage include flushing, hyperthermia, tachycardia, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils and respiratory depression which may occur 12 to 30 hours after overdose. Evacuate stomach by lavage, establish a patent airway and, when necessary, assist respiration mechanically. A narcotic antagonist may be used in severe respiratory depression. Observation should extend over at least 48 hours.

Dosage forms: Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. Liquid, 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

SEARLE

Searle & Co.
San Juan, Puerto Rico 00936

Address medical inquiries to:
G. D. Searle & Co.
Medical Department, Box 5110,
Chicago, Illinois 60680

- regulation of tissue-CRF. *Neuroendocrinology*, 13:231-245, 1973/74.
6. Snyder, J. J., Jacobs, L. S., Utiger, R. D., and Daughday, W. H.: Thyroid hormone inhibition of the prolactin response to thyrotropin-releasing hormone. *J. Clin. Invest.*, 52:2324-2329, 1973.
7. Gantvik, K. M., Tashjian, A. H., Kourides, I. A., Weintraub, B. D., Graeber, C. T., Maloof, F., Suzuki, K., and Zuckerman, J. E.: Thyrotropin-releasing hormone is not the sole physiologic mediator of prolactin release during suckling. *N. Eng. J. Med.*, 290:1162-1165, 1974.
8. Yen, S. S. C., Siler, T. M., and DeVane, G. W.: Effect of somatostatin in patients with acromegaly. *N. Eng. J. Med.*, 290:935-938, 1974.
9. Mortimer, C. H., Carr, D., Lind, T., Bloom, S. R., Mallinson, C. N., Schally, A. V., Tunbridge, W. M. G., Yeomans, L., Coy, D. H., Kastin, A., Besser, G. M., and Hall, R.: Effects of growth-hormone release inhibiting hormone on circulating glucagon, insulin, and growth hormone in normal, diabetic, acromegalic, and hypopituitary patients. *Lancet*, 1:697-701, 1974.
10. Hall, R., Schally, A. V., Evered, D., Kastin, A. J., Mortimer, C. H., Tunbridge, W. M. G., Besser, G. M., Coy, D. H., Goldie, D. J., McNeilly, A. S., Phenekos, C., and Weightman, D.: Action of growth-hormone-release inhibitory hormone in healthy men and in acromegaly. *Lancet*, 2:581-584, 1973.
11. Besser, G. M., Mortimer, C. H., Carr, D., Schally, A. V., Coy, D. H., Evered, D., Kastin, A. J., Tunbridge, W. M. G., Thorner, M. O., and Hall, R.: Growth hormone release inhibiting hormone in acromegaly. *Brit. Med. J.*, 1:352-355, 1974.
12. Gerich, J. E., Lorenzi, M., Schneider, V., Kwan, C. W., Karam, J. H., Guillemin, R., and Forsham, P. H.: Inhibition of pancreatic glucagon responses to arginine by somatostatin in normal man and in insulin-dependent diabetes. *Diabetes*, 23:876-880, 1974.
13. Dobbs, R., Sakurai, H., Sasaki, H., Faloona, G., Valverde, I., Baetens, D., Orci, L., and Unger, R.: Glucagon: role in the hyperglycemia of diabetes mellitus. *Science*, 187:544-546, 1975.
14. Kastin, A. J., Schally, A. V., Zarate, A., Arimura, A., Gonbalez-Barcena, D., Medeiros-Neto, G. A., and Schalch, D. S.: Analysis of clinical studies with natural and synthetic luteinizing hormone-releasing hormone in man. *Israel J. Med. Sci.*, 10:1305-1313, 1974.

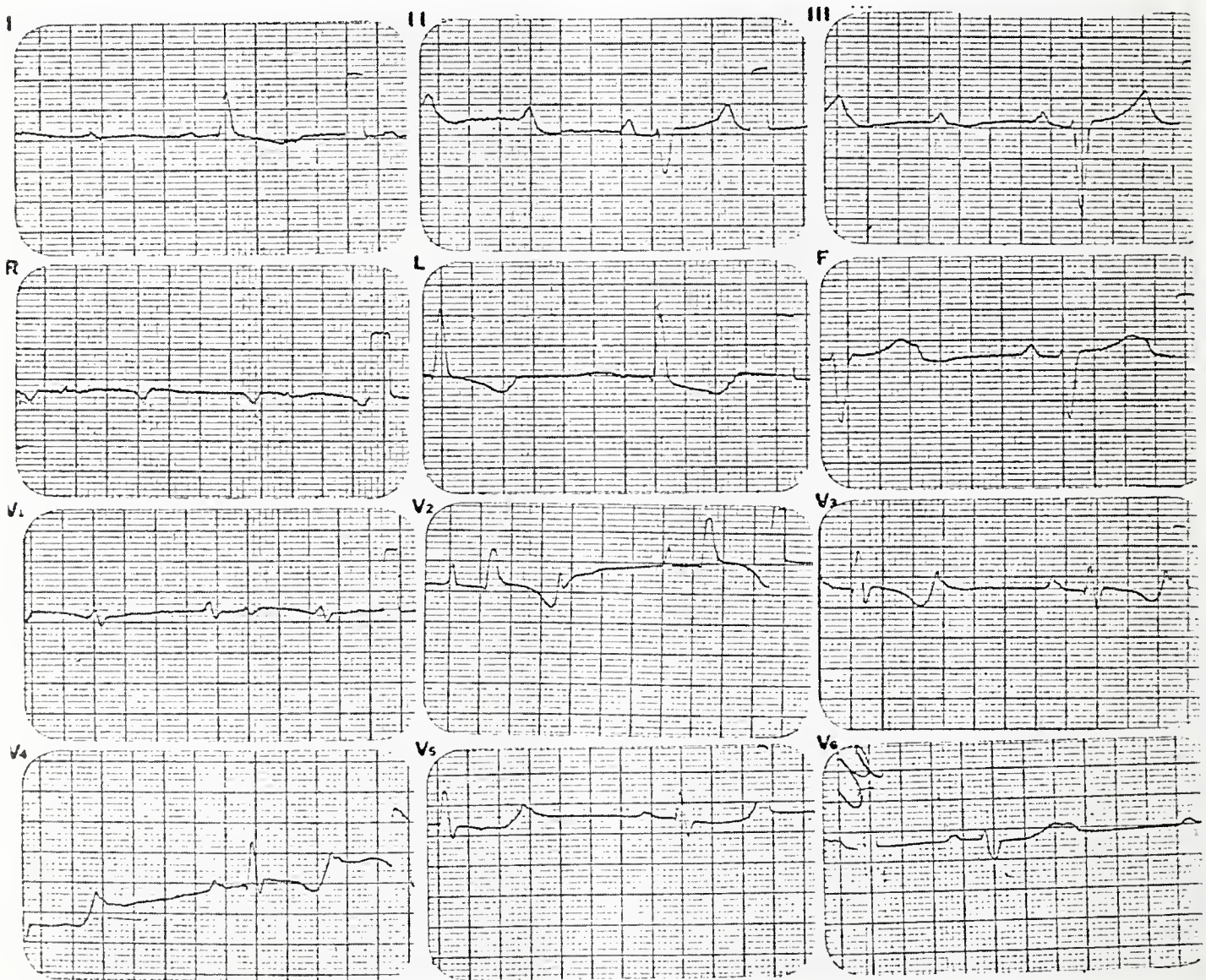




The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 284)

A 15-year-old girl presented with a history of having developed shortness of breath following a "flu-like" illness in December of 1974. Two months prior to her admission she began to experience increasing shortness of breath and had three syncopal episodes.



Malcolm B. Pearce, M.D.
Associate Professor of Medicine
University of Arkansas College of Medicine
Little Rock, Arkansas 72201



Office Orthopaedics

Get That Knee Going (Restoration of Knee Function)

Philip H. Johnson, M.D.*

The knee is a very sensitive joint to injury or irritation. Within 24 hours following injury there is an immediate effect of pain, apprehension, insecurity, weakness, tremor, wasting, and atrophy.^{4,14} The quadriceps muscle seems to bear the brunt of this wasting process. It is afflicted with a "reflex inhibition" which may give the appearance of flaccid paralysis.¹⁵ Hamstring spasm begins which may limit complete extension mimicing a "locked knee". Dawson¹ feels that even bone, cartilage and synovial degeneration may occur. Joint effusion results from synovial irritation, and is aggravated by joint laxity, muscle weakness, abusive exercise, or disease. A vicious cycle of injury, effusion, rest, quadriceps wasting, and injury may be produced.¹⁵

Rehabilitation of the weakened and wasted quadriceps is the key to restoration of knee function. Similar programs may be instituted for post injury and post operative patients as well as the arthritic knee.

REVIEW

DeLorme² in a classic article in 1945 pointed out the difference between muscle power (strength) and endurance, and recommended restoration of power first. For this he used isotonic (moving the knee through a range of motion) exercises of high resistance and low reps (repetitions). Ten Repetitions Maximum (10 RM), or the maximum weight which could be lifted 10 consecutive times, was carried out in 7-10 series or sets daily, 5 days per week. Smaller

amounts of weight were used initially in the session because 70-100 reps were done. One Repetition Maximum (1 RM) was tested each week, and used as an index of quadriceps power. Weight levels for the next week were thereby determined.

Hettinger and Muller⁵ developed a similar degree of strength by loading a patient near maximum for a single 6 second quadriceps contraction sustained isometrically (without joint motion), for one exercise period per day.¹⁴ Liberson and Asa¹¹ confirmed the rapid strength and endurance produced by a 6 second isometric exercise and reported benefit from this exercise repeated several times per day. Rose^{13,14} combined the two above principles as he advocated the use of the one Repetition Maximum (1 RM) contraction done isotonicly with the leg over the table and held 5 seconds in extension. With each exercise period, 1.25 pounds of weight was added until the "ceiling of maximum strength" was attained.

Lannin⁹ after 294 arthrotomies for meniscus injuries reported 287 patients with patellar malacia; finding only 7 normal patellae. In restoration of quadriceps function he strongly opposed isotonic exercise feeling it contributed to further chondromalacia, irritation of the knee, and effusion. He recommended isometric exercises (straight leg raising and weight resistance exercises in extension). Zohn¹⁸ in a comparison of isometric and isotonic quadriceps exercises found the isometric group of patients developed the same degree of strength, faster. This means that straight leg raising exercises against resist-

*Little Rock Orthopedic Clinic, P.A., Post Office Box 5270, Little Rock, Arkansas 72205.

ance may give faster muscle building than progressive resistive exercises. In the treatment of arthritis, Kettelkamp⁷ recommends isometric leg lifts with the patient supine. The heel is elevated 4 inches, held for 5 seconds, and repeated 20 times twice daily. Weights are added in one pound increments until 8-10 pounds is being lifted.

Lawrence,¹⁰ Torg,¹⁷ and Hughston⁶ recommend 10 reps in sets of 3, 3, and 8 respectively. Stewart¹⁵ however, recommends 50 reps with gradual additions of weight from 2 pounds to as high as 50 pounds. Contractions are held in complete extension for 2 seconds.

RECOMMENDED PROGRAM (Table 1)

1. *Quadriceps setting* (isometric) exercises in complete extension are the front line of attack on quadriceps atrophy and weakness. This is performed by contracting the quadriceps, visibly noting the patella move slightly, and gives the sensation of pushing the back of the knee flat against the table. Initially it may be helpful to place a towel roll under the knee and observe the heel to rise with each contraction. The immediate post operative patient is asked to do up to 50 quadriceps sets each waking hour.^{1, 8, 12, 16, 18} The exercise is also helpful in later stages of rehabilitation to correct extensor lag (failure to gain the last few degrees of active extension while passively extension is easily obtained).

2. *Straight leg raising* (SLR) (isometric) is the next level of achievement. It is a measure of marginal quadriceps function. When this can be accomplished it demonstrates the patient has enough control of the leg to be out of bed on crutches. SLR is begun as soon as post operative or post injury as the patient tolerates and up to 8 per hour are requested.¹

3. *Straight leg raising against resistance* (SLR with resistance) (Fig. 1) (isometric). The leg is held in 45 degrees of knee flexion over the side of a table for 6 seconds and repeated three times.¹⁸ Then the leg is held in complete extension for 6 seconds and repeated three times. During these six sustained contractions weight is added to the

foot in one or two pound increments and increased to the 3 Repetition Maximum (3RM) level (the maximum amount of weight which can be sustained 6 seconds for 3 consecutive contractions). When an assistant is not available to weight and unweight the foot (Fig. 1-a) these exercises may be done as leg lifts from a fixed position (Fig. 1-b). Weighting the foot or ankle is accomplished by using a weight shoe, ankle weights, or lifting an old purse with added cans of food of appropriate weight. These two sets are done twice daily.

Knee flexion is permitted as soon as SLR with good strong extension is developed. Post-operative, however, active flexion is not encouraged for 10-14 days (after suture removal).

As general irritation within the joint (effusion, heat, etc.) subsides, as quadriceps strength begins to return and in the absence of patellofemoral disease, the patient progresses to the next stage.

4. *Progressive Resistive Exercises* (PRE) (Fig. 2). With the patient sitting on a firm table and the legs hanging in 90 degrees knee flexion, a folded towel is placed under the knee for padding. The

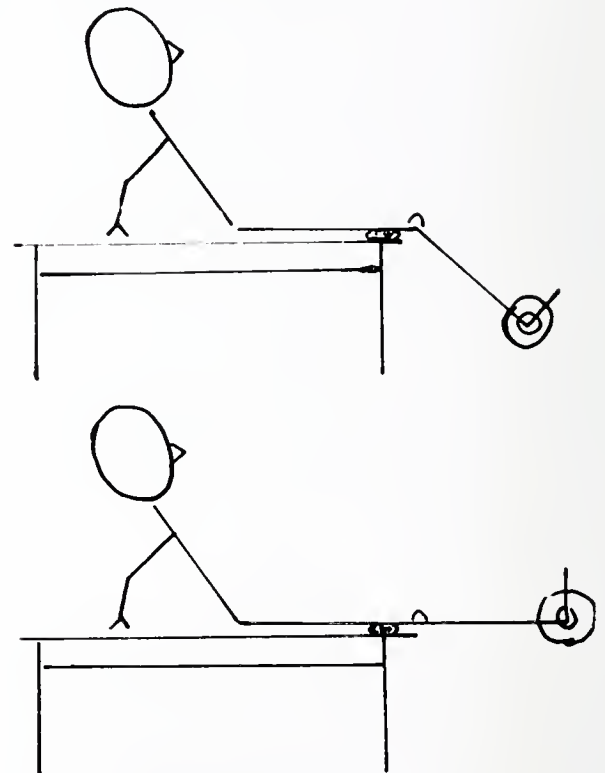


Figure 1A

Exercise	Type	Schedule	Freq.
Quad Setting	Isometric	(up to) 50 contractions	Each waking hour
SLR	Isometric	(up to) 8 leg lifts	Each waking hour
SLR & Resistance	Isometric	3RM — held 6 sec. in 45° flexion	Twice daily
		3RM — held 6 sec. in extension	Twice daily
PRE	Isotonic	20RM — held 2 sec. in 3 sets	Twice daily

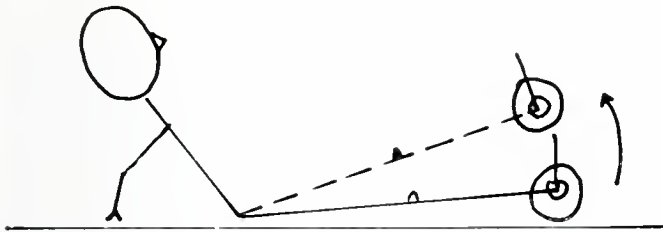
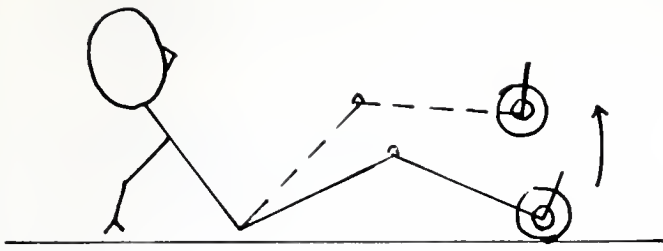


Figure 1B

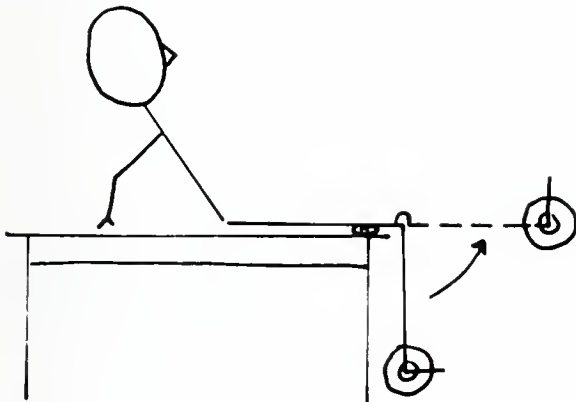


Figure 2

knee is gradually brought into complete extension, held for a 2 second count, brought down for 2 seconds and repeated 20 times. This set of 20 contractions is repeated three times with a rest period between each set. In this manner three sets of 20 Repetitions Maximum (20 RM) exercises are performed each session. Two sessions per day are recommended. When this can be accomplished with only the weight of the leg, two pounds of weight is added as above. Increasing weight is added in two pound increments. For example, a patient now extending the knee with the weight of the leg alone, 20 consecutive times without resistance, adds two pounds to the foot or ankle. Isotonic knee extension exercises are then done with two pounds until 20 reps can be done in each of three sets. This is repeated in the second daily session. When this is accomplished, four pounds will be used until 20 reps in three sets, in two daily sessions can be achieved. In this manner the "weight level" is increased in two pound increments by the patient's ability to perform. When the patient has reached 8-10 pounds, and is free of effusion, weight bearing (without crutches) is permitted. When a "weight

level" of 20 pounds is reached jogging, running (running steps), and biking may be resumed, if the knee is free of fluid. The athlete may return to play, if no anatomic restriction is present, when he is working with over 20 pounds, is free of effusion, and can run Fig. of 8 patterns³ full speed without pain or faltering. Gastrocnemius, hamstring, and hip muscle exercises are rarely necessary,⁸ but can be added to the program where specific weakness exists.

DISCUSSION

Weight bearing is generally accepted as being an irritant to an inflamed joint.^{2,5,8} Excessive strain is applied to lax knee ligaments, not supported by normal muscles. For this reason crutches are indicated when effusion is present. On the other hand SLR with resistance and PRE exercises are considered non-irritating. These exercises have a "pumping" effect on the synovial pouch,⁶ producing gradual resorption of joint fluid. In effect a teeter-totter balance (Fig. 3) is established with weight bearing (walking, running, etc.) on one side and exercises on the other. If the excessive abuse of weight bearing is not balanced by strengthening exercise, effusion results. These exercises must be therefore continued as normal activities are resumed.

Thermal treatment (heat) in physical therapy is never a substitute for the hard work of exercise. Complete restoration of function can be brought about without heat. If, however, facilities are available they may be used to augment treatment. Heat (whirlpool, hydrocollator packs, etc.) is used to warm up the leg prior to the exercise session and the knee packed in ice afterward to diminish swelling.

Several problems contribute to delayed or poor results.⁸ (1) Walking too early without muscle (quadriceps) strength, and support. As noted

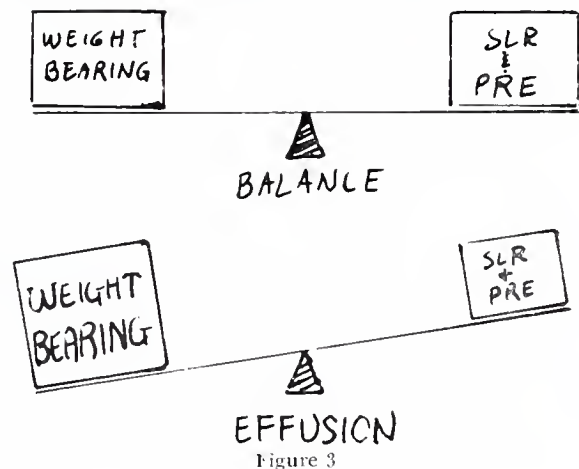


Figure 3

above, absence of effusion and demonstration of acceptable quadriceps strength are necessary before crutches are laid aside. (2) Failure to get full extension on SLR and PRE exercises indicates persistent weakness and/or extensor lag. PRE exercises should not be done by "swinging" the weight but strong sustained (2 seconds) extension should be demonstrated with each contraction. (3) Discontinuing exercise while walking or strenuous athletics are begun. At both these times additional strength is required. Effusion and "setback" may result from the irritation of renewed activity not balanced by continued quadriceps strengthening. (4) Squatting exercises and deep knee bends are not done unless specifically required by the patient's occupation or sport. Chance of new injury is great.

CONCLUSION

It is hoped that this short treatise will serve as a guide for the systematic recovery of knee strength and endurance.

BIBLIOGRAPHY

1. Dawson, D. C.: Intensive Exercise Program for Use in Knee Surgery and Pathology. *Arch. Phys. Med.* 34:750-755, Dec. 1953.
2. DeLorme, T. L.: Restoration of Muscle Power by Heavy Resistance Exercises. *JBJS* 27:645-667, Oct. 1945.
3. Ellsasser, J. C., Reynolds, F. C., et al: The Non-Operative Treatment of Collateral Ligament Injuries of the Knee in Professional Football Players. An Analysis of Seventy-Four Injuries Treated Non-Operatively and Twenty-Four Injuries Treated Surgically. *JBJS* 56A:1185-1190, Sept. 1974.
4. Ghromley, R. K.: Conditions Involving the Knee Joint. *Arch. Surg.* 57:743, Nov. 1948.
5. Hettinger, T., and Muller, E. A.: Muskelleistung and Muskeltraining. *Arbeitsphysiologie* 15:111, Oct. 1953.
6. Hughston, J. C., et al: The Injured Knee. *J. Med. Assoc. Ga.* 63:362-368, Sept. 1974.
7. Kettelkamp, D. G., and Laros, G. S.: The Arthritic

- Knee—Recent Advances in Management. *J. Ark. Med. Soc.* 69:63-69, July, 1972.
8. Kraus, H.: *Reconditioning After Knee Injuries*. N. Y. State J. Med. 72:941-945, April, 1972.
9. Lannin, D. R.: Rehabilitation of Knee Meniscus Injury with Associated Malacia of the Patella. *JAMA* 171:1662-1664, Nov. 1959.
10. Lawrence, M. S.: Strengthening the Quadriceps: Progressively Prolonged Isometric Tension Method. *Phys. Ther. Rev.* 36:658-661, Oct. 1956.
11. Liberson, W. A., and Asa, M. M.: Further Studies of Brief Isometric Exercises. *Arch. Phys. Med.* 40:330-336, Aug. 1959.
12. Noland, R. P., et al: Physical Therapy for the Meniscectomy. *Phys. Ther. Rev.* 39:85-88, Feb. 1959.
13. Rose, D. L., Radzynski, S. F., and Beatty, R. R.: Effect of Brief Maximal Exercise on the Strength of the Quadriceps Femoris. *Arch. Phys. Med.* 38:157-164, Mar. 1957.
14. Rose, D. L.: Brief Maximal Isotonic Exercises in the Treatment of Knee Injuries. *JAMA* 171:1673-1675, Nov. 1959.
15. Smillie, I. S.: *Injuries of the Knee Joint*. Williams & Wilkins 3rd Ed., pg. 2, 1962.
16. Stewart, M. J.: Athletic Injuries, Particularly to the Ligaments of the Knee: Diagnosis, Repair, and Physical Rehabilitation. *Am. J. Orthop.* 3:52-55, Feb. 1961.
17. Torg, J. S.: *The Key to Quick Repair of Knee Injuries*. Consultant: 126-129, Apr. 1973.
18. Zohn, D. A., et al: A Comparison of Isometric and Isotonic Exercises of the Quadriceps after Injuries to the Knee. *Arch. Phys. Med.* 45:571-574, Nov. 1964.



ANSWER—Electrocardiogram of the Month

Mabitz type II second degree atrioventricular block (2:1) is present as well as right bundle branch block and left anterior fascicular block. This ECG finding suggests conduction system disease of all three fascicles of the conduction system. The patient was treated with a permanent transvenous pacemaker.



Toxicology Update

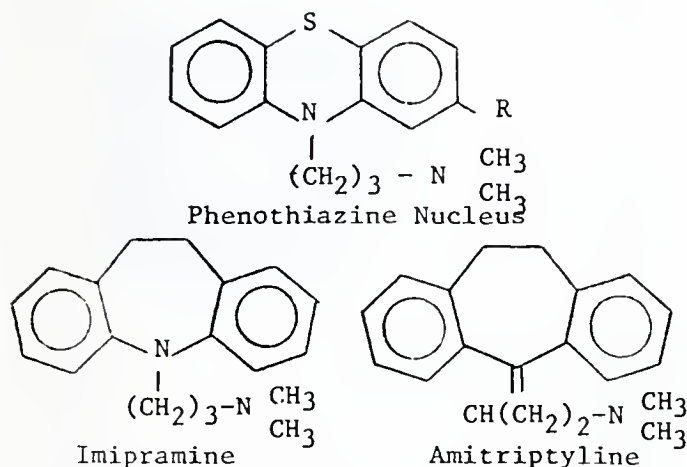
of the Arkansas poison control— drug information center

Emergency poison or drug information for
health professionals only.
Pulaski County: 666-5532 • WATS: 1-800-482-8948

The Tricyclic Antidepressants*

The tricyclic antidepressants are involved in a small percentage of reported accidental ingestions and suicide attempts. However, statistics reveal that a large percentage of tricyclic poisonings are fatal. It is apparent that the increasing use and abuse of this class of drugs will increase the number of potentially fatal poisoning situations confronting members of the health professions.

Much has been written about the structural similarities between the tricyclic antidepressants and the phenothiazines. It is sufficient here to exhibit these similarities:



The tricyclic antidepressants, imipramine, in particular, were not differentiated from phenothiazine analogs until 1958, when Kuhn began clinical investigation of iminodibenzyl derivatives synthesized by Hafliger in 1948. Kuhn found, that unlike phenothiazines, imipramine was relatively ineffective in quieting agitated psychotic patients. Upon further investigation he found imipramine to be most effective in "endogenous" depression characterized by regression and inactivity. Patients with hyperactive, agitated, and anxious depression were made worse by the drug.

Specifically what products are we talking about when we mention tricyclic antidepressants?

Below are products commonly prescribed:

Amitriptyline—Elavil® by MSD

Desipramine—Norpramine® by Lakeside;

Pertofrane® by USV

Imipramine—Presamine® by USV; Tofranil® by Geigy

Nortriptyline—Aventyl® by Lilly

Protriptyline—Vivactil® by MSD

There is no convincing evidence that the search for compounds related to the original imipramine has produced substances with any more clinical effectiveness.

Pharmacology

Like the phenothiazines, the tricyclic antidepressants primarily for their action on the CNS, but the drug do affect numerous other organ systems as well. Some of the CNS effects of imipramine for example, resemble those of its phenothiazine analog, promazine. Only recently have the antidepressant properties of the tricyclics been demonstrated.

a) Psychological Effects

Even though it appears to help depressed patients, imipramine does not produce euphoria in normal human subjects; rather, it produces feelings of fatigue accompanied by atropine-like symptoms (dryness of mouth, palpitations, blurred vision, and urinary retention).

The manner by which imipramine relieves the signs and symptoms of depression is not clear. Its effect has been described as a dulling of depressive ideation rather than a euphoric stimulation as produced by MAO inhibitors. The exact mechanism of action of imipramine on the CNS is not known. One interesting hypothesis is that depressive states may be related to excessive cholinergic activity in the brain, and that imipramine and its congeners produce their effect by virtue of their anticholinergic action. The most current theory contends that tricyclic antidepressants modify depression by their effects on

*D. Karrol Fowlkes, Poison Control Drug Information Specialist, Arkansas Poison Control Drug Information Center.

the metabolism or re-uptake of norepinephrine in the CNS.

Another point of interest is that despite its clinical antidepressant effect, imipramine produces a depression of spontaneous motor activity in laboratory animals similar to that of the phenothiazines. Imipramine, like the phenothiazines, prolongs hexobarbital sleeping time and alcohol narcosis, decreases body temperature, causes ataxia, and impairs both learning and performance of conditioned avoidance responses. In all these tests, imipramine is much less potent than chlorpromazine.

b) Action on Autonomic Nervous System

As has been previously stated, imipramine possesses distinct anticholinergic properties, particularly against the muscarinic actions of acetylcholine. Some of the side effects observed with clinical usage are blurred vision, dryness of mouth, constipation, and urinary retention (all atropine-like effects).

c) Action on Cardiovascular System

Orthostatic hypotension is commonly observed with therapeutic doses of the tricyclic antidepressants. Myocardial infarction and the precipitation of congestive heart failure during the course of treatment have also been attributed to imipramine administration. Toxic doses of imipramine may produce cardiac arrhythmias and tachycardia, usually attributed to vagal blockade.

d) Action on Respiration

Imipramine in clinical doses has little effect on respiration; however, respiratory depression is often observed following poisoning with the tricyclics.

Absorption, Fate and Excretion

The tricyclic antidepressants are well absorbed from the gastrointestinal tract. There is a long lag time between initiation of tricyclic antidepressant therapy and the resulting therapeutic response. A period of 10 days to 2 weeks is often required before a beneficial therapeutic effect is observed. Many sources attribute this delayed onset to either protein binding or to differential binding of the drug in the brain. Plasma levels are transient because of rapid excretion of the drugs; 40% of a single dose appears in the urine after 24 hours and 70% is excreted during the first 72 hours.

Paradoxically, patients responding well to these drugs often exhibit lower blood levels than

those patients exhibiting no clinical response to the drug.

Toxicity

The minimum lethal dose of the tricyclic antidepressants is given as 5 to 50 mg/kg in a 70 kg man. This, of course, will vary; adults have recovered after ingestion of 1.2 gram of amitriptyline and as little as 2 tablets have produced symptoms in a 2 year old child.

The acute manifestations of poisoning include: coma, clonic movements of convulsions, fall in blood pressure, respiratory depression, mydriasis, and disturbances of cardiac rhythm and conduction. These cardiac disturbances can include sinus tachycardia, cardiac ischemia, multifocal extrasystoles, and various degrees of atrioventricular block. Ventricular fibrillation immediately precedes death and may occur after apparent recovery.

The mechanism of action of tricyclic antidepressant drugs is not clearly understood. The CNS manifestations are most likely produced by the central anticholinergic activity, whereas peripheral anticholinergic action results in the signs of atropinism. The arrhythmias and intra-ventricular conduction block are not explained by the atropine-like effect of the drug.

Management procedures should attempt to correct both cardiac and CNS effects of tricyclic antidepressant intoxications. Forced diuresis, peritoneal dialysis, and hemodialysis are not useful in removal of the drug. Both the CNS and cardiac effects of the tricyclic antidepressants can be treated with physostigmine. In contrast to physostigmine (a short-acting, tertiary amine which crosses the blood-brain barrier), neostigmine and pyridostigmine are deemed of little clinical value since both are quaternary ammonium compounds and do not cross the blood-brain barrier. Physostigmine (a cholinesterase inhibitor) antagonizes the atropine-like action of the tricyclics in both the CNS and periphery.

The cardiac effects of the tricyclics and subsequently the action of physostigmine in therapy is postulated as follows:

1) tricyclic antidepressants are selectively absorbed by the myocardium sensitizing the adrenergic receptors of the heart. In toxic doses this sensitization leads to some of the cardiac manifestations seen.

2) also the atropine-like effect on the vagus produces a lessening of vagal inhibition on the myocardium.

3) administration of physostigmine enables a cholinergic response of the vagus on the heart thereby slowing rate and rhythm.

Summary of Therapy

1) Emesis or gastric lavage for physical removal of ingested material in acute poisoning.

2) Respiration may be assisted by physical methods if needed.

3) Convulsions may be controlled with diazepam administered IV.

4) The patient should be placed on a cardiac monitor for 72 hours and should be closely observed for 1 week following serious poisoning.

5) Physostigmine (1 to 4 mg. in adults) should be given by slow IV push to alleviate cardiac and central toxic effects. Due to its short action it may be repeated in 30-60 minutes if needed.

The incidence of poisonings for the past year as reported by the Arkansas Poison Center are as follows:

Prescription Drugs	41%
Household Products	17%

Plants	11%
Chemical Agents	10%
OTC Preparations	10%
Pesticides	6%
Petroleum Products & Solvents	4%
Misc. Products	1%
Gases, Vapors, Fumes	1%

REFERENCES

1. Burks, et al: Tricyclic Antidepressant Poisoning, *JAMA*, 230:1405-1407 (1974).
2. DiPalma, Joseph R.: *Drill's Pharmacology in Medicine*, 4th Edition, pp. 505-512.
3. Rumack, B. H.: Anticholinergic Poisoning: Treatment with Physostigmine, *Pediatrics*, 52:449-450 (1973).
4. Goodman, Louis, and Gilman, Alfred: *The Pharmacological Basis of Therapeutics*, 5th Edition (1975), pp. 174-179.
5. Solvis, et al: Physostigmine Therapy in Acute Tricyclic Antidepressant Poisoning, *Clinical Toxicology*, 4 (3), pp. 451-459, 1971.
6. Snyder, et al: Reversal of Amitriptyline Intoxication by Physostigmine, *JAMA*, 230:1433-1434 (1974).
7. Goel, et al: Amitriptyline and Imipramine Poisoning in Children, *British Medical Journal*, 1, 261-263 (1974).



PUBLIC HEALTH AT A GLANCE

Mycology Laboratory Services

Robert T. Howell, Dr. P.H., P. H.*

Realization of the importance of the fungi as etiologic agents of serious systemic disease continues to increase in Arkansas, if the increased workload in the Mycology Laboratory can be used as an indicator. The fact that *Histoplasma capsulatum* and *Blastomyces dermatitidis* are endemic in areas of Arkansas and recognition of the role of opportunistic fungi in prolonged illness are part of the reason for this increase. The Division of Public Health Laboratories offers diagnostic services in two areas: a) the culture of clinical specimens for isolation and identification of the organism(s) involved and b) the determination of serological titers for the major systemic

fungi.

The Mycology Laboratory routinely receives and examines clinical specimens for fungi, growing them in culture when possible and identifying them through microscopic examination, growth characteristics and biochemical procedures. The specimens most often received are sputa, bronchial washings, chest fluids and gastric washings (Table 1) since it is usually necessary to rule out histoplasmosis, blastomycosis, coccidioidomycosis and nocardiosis in conjunction with the diagnosis of tuberculosis. The fungi most often identified from these specimens, as one would expect, are *Candida albicans* and related species. However, over a three year period, twelve *Blastomyces dermatitidis*, twenty-six *Histoplasma capsulatum*,

*Laboratory Administrator, Division of Public Health Laboratories, Bureau of Health Facility Services, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.

TABLE No. I
Specimens Received for Mycology Examination —
1973-1975*

TYPE OF SPECIMEN For Culture:	1973	1974	1975	TOTAL
Sputum	1,522	1,303	1,557	4,382
Bronchial washings	6	25	29	60
Gastric washings	9	12	16	37
Chest fluid	13	13	22	48
Joint fluid	4		17	21
Spinal fluid	10	34	23	67
Drainage			10	10
Lymph node	6		5	11
Tissue	15	34	30	79
Pus, Abscess, etc.	4	14	7	25
Bone, Bone marrow	3	4	2	9
Urine	25	18	45	88
Feces	4	1	4	9
Hair, Nails, etc.	6	17	18	41
Swabs			4	4
Unknown		4	6	10
Miscellaneous	53	47		100
Unsatisfactory			8	8
Referred cultures	70	58	133	261
Total	1,750	1,584	1,936	5,270
For Serology:				
Blood or Sera	2,080	2,433	2,840	7,353
Total Specimens	3,830	4,017	4,776	12,623

* July 1, 1973 to June 30, 1975.

and thirteen *Coccidioides immitis* have been found. Table II gives the species of fungi isolated and/or identified in the Mycology Laboratory for each of the past three years. Organisms that this laboratory cannot identify are referred to the Mycology Laboratory of the Center for Disease Control in Atlanta. While the major efforts of this Laboratory are related to the systemic fungi, specimens are received and identifications made of the dermatophytic and subcutaneous fungi also.

In submitting sputa or other clinical specimens for fungus culture, it is very important that the specimens be fresh or otherwise preserved against bacterial overgrowth. The kits for fungus culture provided by the Health Department have a measured amount of chloramphenicol in them to discourage bacterial growth, which helps to some extent but nothing is as good as a fresh specimen. The chances of recovery of medically important fungi from a specimen are approximately cut in half for each day of delay in arrival at the laboratory. Incidentally, this added chloramphenicol inhibits *Actinomyces*, *Nocardia* and *Streptomyces* species, so an untreated sputum bottle should be used, and the forms so marked, if one of those species is suspected. Most of the fungi of medical importance are slow growing

and cultures are usually held for five weeks before they are discarded as negative.

Another service offered by the Mycology Laboratory is to serve as a Reference Laboratory for the identification or confirmation of organisms isolated in other (clinical, hospital, or independent) laboratories in this State. Information on the numbers and species of such identification is also given in Table II.

The complement-fixation tests for fungal diseases performed in this laboratory are primarily directed against histoplasmosis, blastomycosis, and coccidioidomycosis and, since there is a great deal of cross reaction in these groups, especially between *Histoplasma* and *Blastomyces*, they are always tested in parallel. Single sera are tested, but acute and convalescent (three to four weeks after onset) sera tested together, give more useful information. Certainly, follow-up sera on re-active specimens are useful.

For diagnosis of histoplasmosis, blastomycosis or coccidioidomycosis, the complement-fixation test is the most useful. While a negative test is of little value and does not rule out the possibility of disease, a demonstrated rising titer is strong presumptive evidence of active disease. Tests are run with both histoplasmin and yeast antigens since antibodies to either one or both of these may be found in active cases. In histoplasmosis and blastomycosis, a titer of 1:8-1:16 is suspicious of disease but cross reactions and false positives may fall into this range. A histoplasmin skin test may falsely elevate the complement-fixation titer of previously exposed cases of histoplasmosis. In coccidioidomycosis a low titer (1:2, 1:4) may be diagnostic but a series of serologies are needed to rule out cross reactions with histoplasmin. Table III gives the results of sera tested for the past three years in this laboratory in terms of the titers obtained.

There are other serological tests available for the mycological diseases which can be requested if needed, although most will require forwarding to a reference laboratory. Some of the additional tests, to be applied for the situations listed, are:

- a) Cryptotoccosis—Latex agglutination and tube agglutination tests are available for use with serum or spinal fluid. Negative results are of no value but positive reactions are diagnostic. An indirect fluorescent antibody test (IFA) is also available and provides a presumptive evidence of disease.

b) Sporotrichosis—Latex agglutination and tube agglutination tests may be of diagnostic value in titers over 1:80.

c) Aspergillosis—Agar gel test useful in suspected aspergilloma and allergic asper-

gillosis but of no value in invasive aspergillosis.

d) Candidiasis—Agar gel and latex agglutination tests may be useful as indicators of visceral candidiasis.

Table No. II. Fungi Isolated and/or Identified, 1973-1975*

	FUNGI ISOLATED				REFERRED CULTURES IDENT.						FUNGI ISOLATED				REFERRED CULTURES IDENT.					
	1973	1974	1975	TOTAL	1973	1974	1975	TOTAL			1973	1974	1975	TOTAL	1973	1974	1975	TOTAL		
<i>Absidium</i> sp.		1		1				1												
<i>Acremonium</i> sp.			1	1				1												
<i>Acrotheca</i> sp.		3		3				3												
<i>Allescheria boydii</i>	11					1		12			1	3	1				1	1		
<i>Altermaria</i> sp.	13	9	3			1	1	27				4	3			1	1	9		
<i>Aspergillus effusus</i>		1		1				1				1						1		
<i>Aspergillus flavipes</i>		1		1				1									1	1		
<i>Aspergillus flavus</i>		4	9		13			13			2	1	1					4		
<i>Aspergillus flavus-oryzae</i> group		5			5			5			21	15	11			1	2	50		
<i>Aspergillus fumigatus</i>	20	21	8			1		50			18	65	45			1	2	131		
<i>Aspergillus glaucus</i> group		1			1			1										1		
<i>Aspergillus niger</i>	13	26	5				1	45				2	2					4		
<i>Aspergillus ochraceus</i> group		1	3		1		1	5			1	1		37		13	5	57		
<i>Aspergillus oryzae</i>		3			3			3									1	1		
<i>Aspergillus parasiticus</i>		1			1			1			9	1	5			14	16	45		
<i>Aspergillus sp.</i>	44	33	14			1	1	93			5	28	28				4	65		
<i>Aspergillus terreus</i> group								1				2						2		
<i>Aspergillus ustus</i> group		1	1		2			2			1	4						5		
<i>Aspergillus versicolor</i> group			5		5			5				1						1		
<i>Aspergillus wentii</i> group		2			2			2			24	22	6					52		
<i>Beauveria</i> sp.	1	3	11		15			15			5	14	7					26		
<i>Blastomyces dermatitidis</i>	10		2				2	14			10	1	2					13		
<i>Botryosporium</i> sp.		1			1			1				1						1		
<i>Botrytis</i> sp.	1	1			2			2				1				1		2		
<i>Calcarisporium</i> sp.		2	1		3			3				1						1		
<i>Candida albicans</i>	300	343	321			1	4	969			54	45	46				3	148		
<i>Candida guilliermondii</i>		1			1			1			3	3	6		2		2	16		
<i>Candida krusei</i>		4	6			2	1	13									1	1		
<i>Candida parakrusei</i>		1			1			1					1					1		
<i>Candida parapsilosis</i>		4	19		32		9	32			6	3	4					13		
<i>Candida pseudotropicalis</i>			3		3			3				2				1		3		
<i>Candida rugosa</i>			2		2			2				1				1		2		
<i>Candida tropicalis</i>		6	11		17			17			2	6	3			1	2	14		
<i>Candida sp.</i>	22	11	3			2	2	40			1							1		
<i>Cephalosporium</i> sp.	8	12	6		26		1	27			5	7	3					15		
<i>Choanephora</i> sp.		1			1			1			18	15	4					37		
<i>Chrysosporium</i> sp.	8	7			15			15			3	3	5					11		
<i>Cladosporium</i> sp.	55	67	58		180		2	184			4	2	2					8		
<i>Cladotrichum</i> sp.		1			1			1			1							1		
<i>Coccidioides immitis</i>	7	15	1		23		1	24				6	2					8		
<i>Cryptococcus neoformans</i>		6	3		9		4	14			7	2						9		
<i>Cryptococcus</i> sp.	2	1			3			3									1	1		
<i>Cunninghamella</i> sp.		6	1		7			7			3	5	5			3	2	18		
<i>Curvularia</i> sp.	2	8	2		12		1	13				1						1		
<i>Cylindrocephalum</i> sp.		1			1			1				1	1					2		
<i>Cylindrophora</i> sp.	3	1			4			4			6	10	1					17		
<i>Diniosporium</i> sp.		1			1			1			8	15	26			1	4	54		
<i>Fonsecaea pedrosoi</i>		1	2		3			3			3	12	3			1		19		
<i>Furax</i> sp.		1			1			1			1	2	1		1	1		7		
<i>Fusarium</i> sp.	6	18	10		34			34									5	2	8	
<i>Fusidium</i> sp.		1			1			1			13						1	14		
<i>Geotrichum candidum</i>	14		2		17		1	17				1						1		
<i>Graphium</i> sp.			2		2			2			4	2						6		
<i>Gymnoascaceae imperfecti</i>		1	1		2			2				1	3					4		
<i>Hansfordia</i> sp.		1			1			1				3						3		
<i>Helminthosporium</i> sp.		8			8		1	9			1	5						6		
<i>Henispora</i> sp.		3			3			3				1						1		
<i>Histoplasma capsulatum</i>	13	3	10		26		1	27				2	3					5		
<i>Humicola</i> sp.		1			1			1			3	4						7		
<i>Hyalodendron</i> sp.		1	2		3			3					8				1	9		

*July 1, 1973 to June 30, 1975

TABLE No. III. Results of Fungus Complement-Fixation Tests — 1973-1975*

	Negative	1:8	1:16	1:32	1:64	1:128	1:256
Histoplasmin	6847	196 (2.75%)	51 (0.71%)	18 (0.25%)	3 (0.04%)	3 (0.04%)	
<i>Histoplasma</i> (yeast)	6617	334 (4.69%)	96 (1.35%)	46 (1.65%)	22 (0.31%)	2 (0.03%)	1 (0.01%)
<i>Blastomyces</i> (yeast)	6651	400 (5.62%)	99 (1.39%)	41 (0.58%)	21 (0.29%)	6 (0.08%)	
Coccidioidin	7084	25 (0.35%)	7 (0.10%)	1 (0.01%)	1 (0.01%)		

*July 1, 1973 to June 30, 1975.



EDITORIAL

Surgery for Coronary Artery Disease: An Appraisal

G. Doyne Williams, M.D.,* Robert T. Bulloch, M.D.,* and Malcolm B. Pearce, M.D.*

Coronary artery revascularization has become the most frequently performed cardiac operation. Over 50,000 such procedures were done in the United States last year, and from all indications, many more will be performed this year. Six years have now passed since the first saphenous vein bypass grafts for coronary artery disease were reported by the Cleveland Clinic in 1968. Serious reservations regarding the true worth of this operation were raised by many in its infancy, and sufficient time has now lapsed for some definite and some presumptive observations to be made. The four parameters most frequently questioned in evaluating the effectiveness of the operation are: relief of angina, prolongation of life, prevention of future heart attacks, and improvement in ventricular dysfunction.

RELIEF OF ANGINA

Revascularization has certainly been unequivocally successful in relief of angina. Most reports today show an 80% to 90% absence of angina following the bypass procedure, and in other patients, disabling angina is rendered tolerable. Demonstrations of improved stress testing and patent grafts following revascularization procedures in patients who no longer have angina provides adequate support for the operation's continued recommendation for improved quality of life.

PREVENTION OF HEART ATTACKS

Solid data confirming fewer heart attacks following coronary revascularization procedures is not at this time available. Patients frequently demonstrated ST and T wave changes in the immediate post-operative period which suggest an infarction but which are difficult to differentiate from the pericarditis-like effects caused by

the surgical procedure. Enzyme changes may also be confusing in the post-operative patient so that it is often difficult to confirm an early post-operative infarction.

However, careful post-operative evaluation for extended periods of time in large groups of patients now suggests that hemodynamically significant infarctions are reduced in incidence following revascularization procedures, and supportive data is now in the process of publication from a number of cardiovascular groups.

IMPROVED LEFT VENTRICULAR FUNCTION

Improvement in left ventricular function following revascularization procedures has also been difficult to evaluate. We have known for some time that patients with coronary artery disease, congestive heart failure, and the absence of angina represented very poor candidates indeed for revascularization procedures. Presumably, the ventricular dysfunction and failure was due to scarred and non-viable areas of cardiac muscle. The patient did not have angina because these areas of scar were nonresponsive. In contrast, those patients with congestive heart failure, coronary artery disease, *and angina* were felt to be in failure due to underperfused areas of myocardium, which however, were still viable. It was hoped that revascularization of these patients would result in improved ventricular function, but earlier studies failed to confirm this. Recent data, however, based on determinations of DP/DT, left ventricular end diastolic pressure, and ejection fractions indicate that improved ventricular performance can follow myocardial revascularization in properly selected patients.

Thus, the field of revascularization surgery is most optimistic. We can now recommend surgery for the relief of angina and, in certain patients, for improvement in left ventricular function. We

*University of Arkansas College of Medicine, 4301 West Markham, Little Rock, Arkansas 72201.

as yet must be cautious in suggesting that coronary revascularization can prolong life or prevent future heart attacks; but this possibility is increasingly promising.

SURGICAL TECHNIQUES

Two means of establishing blood flow to diseased coronary arteries are currently being employed. The first was the direct aorta to coronary artery saphenous vein bypass graft, popularized by the Cleveland Clinic in 1967. The other is the use of an internal mammary artery which remains connected to its origin from the subclavian artery, the distal end of which is brought down to be anastomosed directly to the coronary artery distal to its obstruction. This technique was introduced in 1968. There remains some controversy regarding the advantages of these two procedures.

The saphenous vein aorto-coronary bypass graft technique allows revascularization of any vessel of the heart without regard to its location. Saphenous veins of acceptable length can be obtained in almost every patient, either above or below the knee. Improved current surgical techniques employing fine suture materials and optical magnification have allowed surgeons to achieve patency rates at one year of 80% to 90% for most saphenous vein grafts. Disproportion in the size of the vein graft with regard to the coronary artery to which it is to be anastomosed occurs and this has been cited as a reason for failure of some of the grafts. Recently, surgeons have attempted to more accurately match the size of the vein graft to the coronary artery, and some employ veins taken from below the knee so that a smaller diameter vein can be obtained. It has also been found helpful to directly measure the flow through a saphenous vein bypass graft, with an electromagnetic flow meter at the time of surgery. This is routinely done at the University of Arkansas Medical Center. Flows of 40cc to 50cc per minute or greater, indicate a graft which will in all likelihood remain patent. Flows of up to 160cc to 200cc per minute have been measured in our institution through large vein grafts anastomosed to large coronary arteries. Flows of less than 40cc per minute have an extremely high occlusion rate when studied at the end of one year, and when such a flow is obtained, careful inspection of both proximal and distal anastomoses should be made at the time of surgery to obviate possible mechanical difficulties.

The disproportionate size of the vein graft to the coronary artery has led some groups to utilize systemic arteries such as the internal mammary for direct anastomosis to the coronary artery with a more favorable graft-artery size ratio. The direct internal mammary artery anastomosis to the coronary artery enjoyed initial popularity due to the high patency rate (excess of 90% for almost all reporting groups). However, this initial enthusiasm for patency was soon dampened by the realization that only low blood flow through this vessel was routinely obtained and some patients will remain symptomatic, even though their internal mammary artery grafts have been demonstrated to be open. The average flow for an internal mammary to coronary artery anastomosis is approximately 45cc to 50cc per minute, as contrasted to flows in excess of 80cc per minute averaged through most vein grafts. So what is the best technique for myocardial revascularization: internal mammary artery direct anastomosis or a vein graft anastomosis? We feel that there is a place for both of these techniques in the practice of coronary artery revascularization today. When large coronary arteries are encountered for grafting, it is practical to use a vein graft either from the upper or lower leg for the bypass, matching the size of the vein graft as closely as possible to the size of the artery. The *vein graft* will in most instances give the greatest possible flow to the coronary bed. In contrast, internal mammary artery anastomoses can be used for proximal lesions on branches of the left coronary artery which are smaller in size and which cannot be approximated to the size of the vein graft with real accuracy. Vein grafts can be applied to any coronary artery, regardless of location.

Internal mammary artery grafts can best be applied to proximal branches of the left coronary system, and in some instances, to a proximal lesion of a small right coronary artery. We feel that there is a place for both of these techniques in the field of revascularization. One can use the internal mammary artery graft where the coronary arteries involved are small, and their lesions are relatively proximal. One can then use the saphenous vein graft, either above or below the knee, to approximate lesions of larger coronary arteries, especially when distal anastomoses are desired. It is important that the cardiovascular team be proficient in both techniques to

provide adequate management of all patients with coronary artery disease.

MYOCARDIAL PROTECTION DURING CARDIAC SURGICAL PROCEDURES

Coronary artery surgery is of necessity performed on hearts with an already compromised blood supply and operations which impair or even stop the flow of blood to the myocardium for extended periods of time can permanently damage the already ischemic ventricle and lead to a poor post-operative result regardless of the success of the myocardial revascularization procedure. Accordingly, we employ no techniques that would result in ischemic arrest of the heart under normothermic conditions. We feel that coronary artery blood flow should not be interrupted during the operative procedure, except for that specific vessel which is being operated upon; and in addition, the myocardium should be cooled to at least 16° during the procedures so that the muscle supplied by the coronary artery whose flow is interrupted, will be protected by hypothermia. All other coronary arteries continue to be perfused by cold blood throughout the procedure. The deleterious effects of ischemic normothermic arrest of the heart have been reported in detail by a number of investigators, and probably most dramatically, by the group from the Texas Heart Institute in the form of irreversible ischemic contracture of the left ventricle, the so-called "stone heart". We employ selective hypothermia of the heart during the operative procedure. The remainder of the patient's body is perfused in the conventional way with normothermic blood at a flow of 5000cc to 6000cc per minute. The heart is isolated from the corporeal perfusion system by a cross clamp on the aorta, and the aortic root and coronary arteries are perfused with blood at carefully regulated flow and pressure at a temperature of 16° centigrade. This allows operations upon the heart and interruption of flow through individual coronary arteries for extended periods of time without demonstrable myocardial damage. We commonly measure left ventricular function before and after the open heart procedure to confirm that no myocardial damage has occurred as result of the operation. We also employ absolute decompression of the ventricular chambers by appropriately placed catheters so that pressure cannot build up within the heart during

the operative procedure and cause ischemic damage of the subendocardium. We would strongly suggest that the protection of the myocardium during an aortocoronary bypass procedure is as important to the ultimate rehabilitation of the patient as is the technical performance of the bypass procedure itself.

RESULTS OF DIRECT MYOCARDIAL REVASCULARIZATION

Direct myocardial revascularization procedures now enjoy an operative mortality of 1-2% in uncomplicated cases for most experienced groups carrying out this procedure. The surgical results at the University of Arkansas Medical Center are within this range as indicated in Table I, and this table includes not only uncomplicated cases of myocardial revascularization, but also all cases in which any sort of revascularization was used in conjunction with the primary procedure. Thus, our figures include cases involving myocardial revascularization plus a valve replacement, resection of ventricular aneurysms, and repair of ventricular septal defects. In 200 such cases to date, there have been three deaths for an overall surgical mortality of 1.5%, which is favorable for this diverse group of patients. We feel that this result is in large part due to a strong emphasis on myocardial protection during the operative procedure.

The ultimate evaluation of a successful and patent revascularization graft on the quality of

TABLE I
Revascularization Experience at The University of Arkansas Medical Center

Saphenous Vein Grafts	
single	35
double	62
triple	22
quadruple	4
total	123
Internal Mammary Grafts	
single	15
double	8
mammary & veins	11
total	34
Aortic Valve & Grafts	8
Mitral Valve & Grafts	4
Ventricular Aneurysm & Grafts	27
V.S.D. & Grafts	4
total	43
Total Cases	200
Deaths	3
% Mortality	1.5%

life in the patient is not always easy. Angina is a subjective symptom and its appearance and disappearance in relation to therapeutic efforts may be most confusing. Objectivity in the evaluation of these revascularization procedures is now being undertaken by a number of centers who have correlated angiographically proven graft patency, improvements in post-operative stress testing, and relief of angina. Based on these studies, we find that of those patients undergoing coronary artery revascularization, 10% will be helped little if at all; another 10% will receive partial relief from angina, and 80% will receive essentially total relief from angina. As mentioned earlier, no claims can yet be firmly made for decreasing the incidence of subsequent myocardial infarctions or prolonging the life of patients with revascularization procedures. The procedures have simply not been done long enough for conclusive results to have been recorded, but the early impressions of several investigators is that both of these parameters will show improvement when the final results are in. There appears to be no question at this time that the quality of life of patients with incapacitating

angina pectoris and favorable anatomy can be significantly improved by direct coronary artery revascularization of either the saphenous vein or internal mammary artery types; and that this improvement of the symptom of angina can be correlated with improved post-operative stress testing as well as proven graft patency with angiocardiology.

REFERENCES

1. Absolon, K. B., Karel, B., and Mispireta, L. A.: The Past, Present and Future of the Surgical Treatment of Arteriosclerotic Heart Disease. *Review of Surgery* 32:1, 1975.
2. Corday, Eliot: Status of Coronary Bypass Surgery. *J.A.M.A.* 231:1245, 1975.
3. Kreulen, T. H., Kirk, E. S., Gorlin, R., Cohn, L. H., and Collins, J. J.: Coronary Artery Bypass Surgery: Assessment of Revascularization by Determination of Blood Flow and Myocardial Mass. *American Journal of Cardiology* 34:129, 1974.
4. McNeer, J. F., Starmer, C. F., Bartel, A. G., et al: The Nature of Treatment of Selection in Coronary Artery Disease: Experience with Medical and Surgical Treatment of a Chronic Disease. *Circulation* 49:606-614, 1974.
5. Webster, J. S., Moberg, C., Rincon, G.: Natural History of Severe Proximal Coronary Artery Disease as Documented by Coronary Cineangiography. *American Journal of Cardiology* 33:195-200, 1974.



MEDICINE IN THE



THE MONTH IN WASHINGTON

Members of the House Ways and Means Committee's subcommittee on health have heard testimony from foreign physicians extremely critical of the federalized national health insurance (NHI) systems in their native lands and from seven U. S. physicians who urged lawmakers not to allow this country to stumble down the same path.

All witnesses were selected by subcommittee Republican minority members to counterpoise arguments made by liberal witnesses produced during the summer by Democrat colleagues.

The major theme of the American physicians was that Federal interference should be kept to

a minimum. Five of the seven physicians suggested that some form of catastrophic insurance might be beneficial.

Clinton S. McGill, M.D., Portland, Ore., told the subcommittee that "freedom within the widest possible latitudes in the practice of medical care is an ingredient absolutely essential to the success of any NHI program."

John Hamilton, M.D., Rochester, N. Y., urged elimination of administrative red tape and proposed a catastrophic plan based on patients' ability to pay.

Marvin N. Lymberis, M.D., Charlotte, N. C., also spoke favorably of catastrophic coverage, warning that an omnibus bill might bankrupt

the government and leave the present health system in a shambles.

John Burkhardt, M.D., Knoxville, Tenn., said NHI must be carefully planned, cannot be all encompassing, and must not interfere with the doctor-patient relationship.

David Masland, M.D., Carlisle, Pa., warned of a possible paper work explosion if NHI is enacted, urged use of private carriers rather than a Federal bureaucracy, and noted that social factors have the biggest impact on the health of the nation.

Brooker Masters, M.D., Freemont, Mich., said the nation does not have the resources at present for NHI. Rationing of services would be required, resulting in "medical care dictated by edicts in the Federal Registry" which would lead to "chaos."

Donald Quinlan, M.D., Northfield, Ill., read a strongly-worded statement opposing any new Federal programs as "compulsory politicized medicine." He accused the Administration and Congress of the "great rip-off" of deficit financing.

The domestic panel was questioned by subcommittee chairman Dan Rostenkowski (D-Ill.) and Reps. John Duncan (R-Tenn.), James Martin (R-N. C.), and Philip Crane (R-Ill.). They praised the panel members for their testimony.

Asked by Rep. Charles Vanik (D-Ohio) to give a show of hands on how many would support a catastrophic plan, six of the witnesses raised their hands, but none did when he asked for their sentiments on catastrophic health insurance operated by Social Security. Vanik contended that the public is pushing Congress on NHI, asserting that the lawmakers are not the innovators.

The foreign panel consisted of two British physicians, a British medical writer, a former Swedish physician, and a Canadian physician—Max Gammon, M.D., London; Reginald S. Murley, M.D., London; Anthony Lejeune, Middlesex, England, medical writer; Sigmund J. Lofstead, M.D., Chicago; and Bette Stephenson, M.D., Toronto.

As a group they urged Congress not to permit governmental control of medicine in this country.

The British witnesses painted a black picture of the situation in England. Dr. Murley said almost all physicians in England are totally opposed to the policies of the government and predicted a "massive confrontation" soon.

Dr. Lofstead, who had practiced in Sweden, said health care has become regimented and politicized in that country. Most people in the U. S. he said, have financial access to the best and most sophisticated health care in the world.

Dr. Stephenson was less critical of the Canadian program, but said any NHI program should involve as little distortion of the present U. S. system as possible. She said fee-for-service is the most efficient and fairest method of payment.

Dr. Gammon said it is imperative that the U. S. resist the socialization of medicine "for the good of the rest of the free world." He said that "if you believe that the state is better able to control the affairs of individuals than they are, then the prospects of freedom for the rest of the world are very dim."

* * *

Despite continued optimism on the part of some members of House Ways and Means that a NHI bill can be drafted this year, Capitol Hill oddsmakers are still betting it can't be done.

Besides the scarcity of time—at least 400 witnesses will be heard by Ways and Means alone—the jurisdictional battle between Ways and Means and House Commerce is far from solved.

Senior staffers of both committees are being quoted as saying "effective NHI cannot come out of a Congress with the present messed-up jurisdiction" and "it simply can't be done in two committees."

Nonetheless, the chance always remains that House leadership under the pressures of an election year could knock heads together until a hurried bill was produced.

* * *

The Administration has opposed a domestic draft of young physicians for service in shortage areas and urged Congress to phase-out capitation grant support for the nation's medical schools.

Testifying before the Senate Health Subcommittee as it opened hearings on health manpower legislation, Theodore Cooper, M.D., Assistant Secretary for Health at the Health, Education and Welfare Department, said:

"We are seriously concerned that the general taxpayer—by means of federal taxes—will be called upon to subsidize in perpetuity the professional training of physicians, dentists, and other well-paid health professionals."

Dr. Cooper told the Subcommittee, headed by Sen. Edward Kennedy (D-Mass.), that legislation

backed by Kennedy that calls for \$5 billion in aid over the next five years is "unnecessary to elicit adequate numbers of students for schools which today accommodate only one out of every two to three qualified applicants."

The Administration "strongly opposes" the compulsory service feature in the legislation requiring all graduates to serve in shortage areas. "This requirement could mean that in the very near future the federal government would have the responsibility for placing and monitoring the professional activities of thousands of individuals in the health system." Dr. Cooper proposed instead to strengthen the National Health Service Corps scholarship program.

The Assistant Secretary also attacked provisions imposing a federal regulatory scheme to control the numbers and allocation of training positions for graduate medical education and to institute a national licensure system for physicians and dentists. "We feel that there is little basis for initiating this far-reaching regulatory mechanism at this time," Dr. Cooper said.

By 1985 the U. S. will have from 207 to 217 physicians per 100,000 population, he testified, placing this nation "near the top of all the industrialized nations in terms of overall physician supply."

* * *

The president of the American Insurance Association believes it may become necessary to separate two elements involved in the medical malpractice insurance system—the compensation of those who suffer loss because of a doctor or hospital fails to perform in accordance with acceptable standards of practice, and the incentive for, and discipline of, medical practitioners.

T. Lawrence Jones said "we think that the public will resist limitations on their legal rights unless coverage for the patient is improved in some other respect and some substitute measure for disciplining doctors and hospitals is created."

Jones, whose association includes many of the firms that write professional liability, said divorce of the two functions "will not be an easy job."

He told a National Press Club breakfast in Washington, D. C., that no one yet knows what the outlines of the two replacement systems should be, let alone the specific features of either. Many tradeoffs will be necessary. Cooperation among the professions will be essential. But the present problems with medical malpractice in-

surance is so complex and so full of implication for the overall health care of the public that bold solutions of all kinds must be pursued.

Jones said he believes that Professional Standards Review Organizations (PSRO's) offer a promise of ameliorating the malpractice crisis.

* * *

Scores of health organizations have protested loudly to Congress about the red tape and inequities in the Medicare program and have urged the Ways and Means' subcommittee on health to straighten out the mess.

The Subcommittee, headed by Rep. Dan Rostenkowski (D-Ill.), called two days of hearings to consider the flood of complaints about HEW's regulatory operations over the past year. The Subcommittee is expected to draft legislation to correct some of the trouble spots identified at the hearings.

The American Medical Association declared "the continuing frustrations of the public and the economic limitations on resorting to the courts for all remedial action must be viewed seriously by this subcommittee and this Congress."

Edgar T. Beddingfield, M.D., Vice Chairman of the AMA's Council on Legislation, referring to HEW's index for figuring physicians' fees under Medicare, said "if the administrative process is to be unbridled and is to be permitted to disregard the rights of individuals and arbitrarily to establish essential factors without adequate compliance with the law, then a discussion of the provisions enacted by Congress in essence becomes moot."

Charging "abuse of the regulatory process" by HEW, Dr. Beddingfield said effects of the economic index will be to lower reimbursement rates for many procedures below the rates recognized by the program in fiscal 1975."

The 1972 Social Security Amendments Law which set Medicare payment controls at the 75th percentile with future adjustments tied to an index determined by HEW is "clearly discriminatory," the AMA witness said. "We are not aware of any segment of society against which similar controls are imposed by Congress." Upshot of such controls, he warned, "will be to shift an increasing financial burden on the beneficiaries."

Dr. Beddingfield urged acceptance of the AMA's 19 amendments to the Professional Standards Review Organization (PSRO) program and

postponement of the Jan. 1, 1976, deadline for professional associations to form PSRO's.

C. Willard Camalier, M.D., Chairman of the AMA's Council on Medical Service, described the AMA's court fight and negotiations with HEW over utilization review in hospitals. He asked repeal of the law's provisions dealing with UR on the subject of the Medicare end stage renal disease program.

Dr. Camalier said "Medicare has attempted to interfere with the practice of medicine by interposing itself between the patient and the physician by refusing to recognize that services for kidney treatment should be reimbursed in a manner consistent with other physician services, and that local determination and medical review are not only preferable, but also the only feasible program for provision of any medical service." This program emphasizes the difficulties encountered when a disease category is made the basis for Medicare coverage.

The provision authorizing HEW to mandate "reasonable costs" for hospitals gives the government the right to determine in effect whether services are medically necessary, the AMA official said. "We must adamantly object to any attempt on the part of the HEW Secretary to make determinations as to the necessity of health care services required in proper patient care."

* * *

A practicing physician has told Congress that pending lobbying legislation would go far in discouraging valuable communications to Congress from medical professionals and from patients.

Alvin Goldfarb, M.D., St. Louis, Mo., obstetrician-gynecologist, said as a physician he has an interest in a wide range of health legislation and regulations which have "a marked influence, whether favorable or unfavorable, upon my own, as well as that of all other physicians' practice."

He told a House Judiciary subcommittee that under proposals to tighten the lobby-laws "I could be considered a lobbyist, and would have to provide detailed quarterly reports. My failure to comply could result in fines or jail sentences."

The physician said the bills define lobbying as a communication with Federal officials, either legislative or executive, to influence the policy-making process.

Said Dr. Goldfarb:

"I can assure you that I as a specialist and

practicing physician have a great interest in those Federal programs that affect my practice. I have an interest not only in how they impinge on my manner of practice but also in how they affect my patients as beneficiaries of the programs.

"I feel as if it is my right as an individual, as well as my duty as a physician, to communicate with members of Congress and with the bureaucracy and at times to urge others to do so to make my voice heard in the legislative and regulatory process which will affect, either favorably or unfavorably, my practice or my patients. I am sure you would agree with me that when physicians seem to get the legislative process in order to protect or to improve the state of health care, this is a goal which should not be threatened by obstacles."

Dr. Goldfarb asked "on whom would the burden of complying really fall, the professional lobbyist or the inexperienced, non-professional individual who would be a lobbyist only because of the broad definition of the bill? Who really needs to be regulated, the person who for pay can lobby on any subject or a member of the public who has a vast reservoir or experience in his own field and who is willing to share this information in an attempt to assure intelligent legislation? Would I be considered a lobbyist if I urge my patients to write their Congressmen concerning legislation or to the bureaucracy concerning regulations?"

* * *

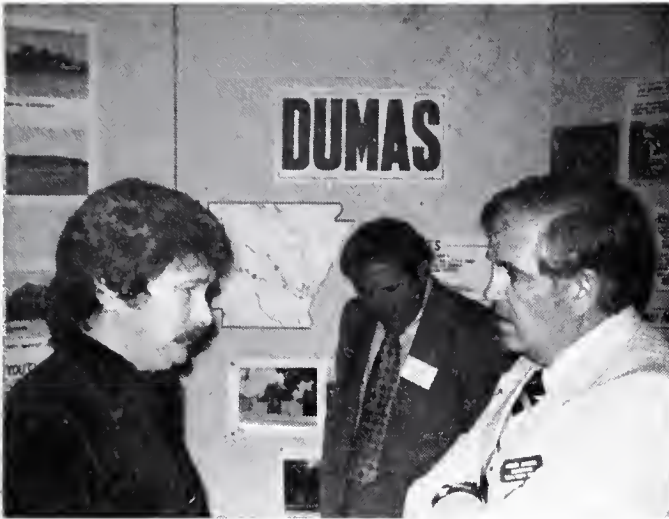
Physician's Opportunity Fair

The Arkansas Medical Society, the Arkansas Caduceus Club, and the University of Arkansas College of Medicine sponsored the second annual Physician's Opportunity Fair held at the University of Arkansas Medical Sciences Campus, October 15, 1975.

The Fair is designed to bring together representatives from Arkansas communities seeking doctors and the medical students, and resident physicians who are interested in practice opportunities. Forty-eight communities had local citizens and doctors manning booths in the Jeff Banks Student Union this year, which was eighteen more towns than participated last year. Some 300-400 young physicians and medical students visited with the exhibitors.

Prior to the visiting which took place between the students and community representatives, College of Medicine Dean Thomas A. Bruce, M.D.,

PHYSICIAN'S OPPORTUNITY FAIR 1975



Dumas County Hospital Administrator Howard Johnson (right) explains his community's opportunity to an interested prospect.



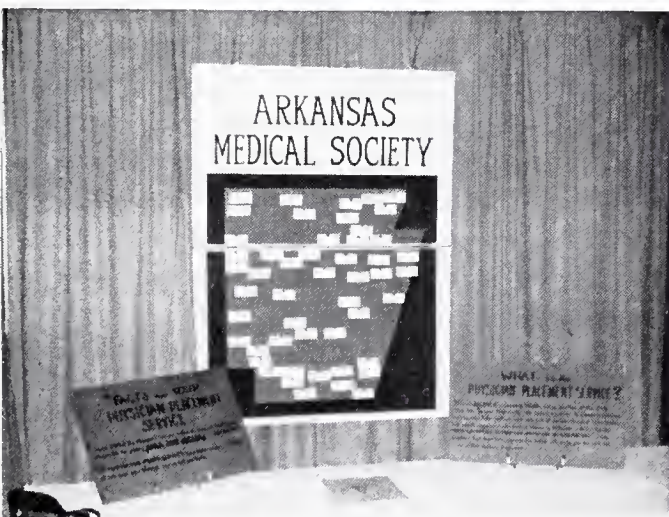
Dr. Dana Copp (right), National Health Service Corps Medical Recruitment Officer, details advantages of the Corps' physician placement programs.



Dr. George Wright of Hope (right) makes notes on his conversation with one of the Vietnamese physicians who participated in the Fair.



Striking up a conversation on opportunities for physicians in Arkansas was not difficult.



The Society's Physician Placement Service maintained visibility with a booth explaining the service and the current opportunities to practice listed.



KATV Channel 7 of Little Rock was among four television stations, and several newspaper and radio reporters present at the event.

and University Chancellor James Dennis, M.D., opened the program with welcoming remarks and their insights into recruiting new doctors. Dr. Don Toon of Crossett spoke to the group on "Why I Practice in Crossett and Have Stayed There Ten Years." Following his remarks, Dr. Toon introduced his wife, Nancy, who spoke on "Being a Doctor's Wife in a Small Town." Mr. John McIntosh, field representative for the Medical Society, spoke on the Society's Physician Placement Service. Dr. Dana Copp, Medical Officer (Recruitment), for the National Health Service Corps, Dallas Regional Office, spoke on the National Health Service Corps program in Arkansas.

It was announced at this year's Fair that as a result of the 1974 effort, four Arkansas communities either located physicians or are now entering final negotiations with doctors. The towns are Booneville, Imboden, Jasper, and Siloam Springs.

* * * *

Dr. Flanigan Reports on Neurosurgical Section

Dr. Stevenson Flanigan of Little Rock, Secretary of the Neurosurgical Section, Arkansas Medical Society, has sent an information report to all neurosurgeons in the State.

The memorandum outlined actions taken and discussed at the recent Joint Socio-Economic Committee Meeting of his specialty which was held in Atlanta. Dr. Flanigan is a representative to the National Advisory Group for the Joint Socio-Economic Committee of the American Association for Neurological Surgeons and the Congress of Neurologic Surgeons.

The report reflected the association's current membership situation and the Federal Government's view of the specialty, including discussion of a possibility for a national office for neurosurgery to be maintained in Washington, D. C.

Other topics reported included the specialty's PSRO Sub-Committee and their compilation of a set of 35 criteria for neurological diagnoses; development of continuing medical education packages; and professional liability insurance, specifically the St. Paul Insurance Company's claims-made type of policy and the controversial "buy out" nature of the policy.

Up-date on AMA Publications

On September 8, 1975, the Arkansas Medical Society office was advised that the Board of

Trustees of the American Medical Association voted to limit the provisions of publications as a membership benefit to the *Journal of the American Medical Association* and the *American Medical News* in 1976. Other publications were to be placed on a subscription basis.

During its October 15-18 meeting, the Board agreed to continue to distribute *Today's Health* and the specialty journals to members without a subscription charge through the early part of 1976. The distribution of the specialty journals will be made in accordance with the selections made by members in 1975.

The purpose of this change is to allow additional time for an orderly transition to a subscription basis with a minimal decline in circulation. Also, the Association is evaluating a number of offers to purchase *Today's Health*, and the continued distribution of copies to AMA members enhances the value of this publication.

AMA Sees Record Dues Income, Membership for 1975

Record dues revenues and a record number of dues-paying members were projected by the American Medical Association. The projection is based on unaudited third quarter financial returns.

"The financial difficulties we have had are by no means entirely over," said the AMA's Executive Vice President, James H. Sammons, M.D., "but we are looking at signs of significant progress."

"In addition to dues income that will top \$18 million, highest in our history, we already have over \$8 million from a special \$60 assessment. That amount will erase the 1974 operating losses, which we now expect will be less than originally anticipated. In addition, the assessment money will give us a good start on our basic financial problem, rebuilding a healthy capital position," he said.

"What is most gratifying," added Dr. Sammons, "is that at equivalent points in time, we are now ahead of last year in all categories of membership, including the regular \$110-a-year members. But the record numbers—over 175,000 right now—are generated largely by young physicians (interns and residents) and medical students who have joined."

"It is difficult to prove," said Sammons, "but I can't help feeling that the belt-tightening we

have accomplished and the more visible, aggressive policies we have pursued have had a healthy impact."

* * *

Vietnamese Refugee Doctors to Train Here

Arkansas Governor David Pryor has authorized the use of up to \$165,000 of his emergency fund to help twenty Vietnamese refugee doctors qualify to practice medicine in Arkansas.

The refugees from Fort Chaffee will undergo a massive tutoring program at the University of Arkansas Medical Sciences campus at Little Rock to prepare them to pass the examination of the Education Council for Foreign Medical Graduates in 1976. They must pass the ECFMG before being licensed to practice in Arkansas, and then they must obtain a year's internship in a medical facility.

Governor Pryor said communities wanting doctors would raise the funds for the internship program.

The cost of the training, in preparation for the tests, will be about \$10,000 for each doctor, the Governor estimated. He allotted \$100,000 for

stipends and direct expenses, \$12,000 for housing and maintenance, and \$23,000 for educational expenses incurred by the University of Arkansas for Medical Sciences.

Dr. Thomas A. Bruce, dean of the College of Medicine, said that the test for foreign medical graduates was extremely difficult and that fewer than seventy percent passed it.

Dr. Mildred Ward, associate professor of family medicine at the college, has stated that many of the refugee physicians who have passed through Fort Chaffee were specialists in Vietnam, but they were screened and the program accepted only candidates who were interested in general family practice. Those accepted ranged in age from twenty-five to forty-four.

The arrangements with communities that want doctors will be made after the doctors complete the examination next year. Governor Pryor has said that a community could lend money to a physician, who could contract to practice in the community for a specified time after completing his internship. The loan would be replaced by working in the community.



THINGS

TO

COME



Postgraduate Medical Congress/Caribbean Cruise

The First American-German Postgraduate Medical Congress will take place between December 26, 1975, and January 9, 1976, at the Holiday Inn in Nassau, followed by a Caribbean cruise. Fifteen qualified university professors from the United States and Germany, all bilingual, will participate in teaching seminars recommended for practicing physicians, internists, cardiologists, and family physicians.

Further details may be obtained by writing to: S. Heyden, M.D., Department of Community Health Sciences, Duke University Medical Center, Durham, North Carolina 27710.

Third Annual Hair Transplant Symposium and Workshop

The American Society for Dermatologic Surgery, the American Academy of Facial Plastic and Reconstructive Surgery, and the American Association of Cosmetic Surgeons are co-sponsoring this conference which is designed to offer an opportunity for the exchange of ideas among various disciplines and to present the latest advances in techniques on hair transplantation.

The symposium and workshop will be held February 13th and 14th, 1976, at the Stough Dermatology and Cutaneous Surgery Clinic, P.A., Doctors Park, Hot Springs, Arkansas 71901. Attendance will be limited. Faculty will include: dermatologists, otolaryngologists, regional and general plastic surgeons. For further information, contact: D. B. Stough, III, M.D., Program Director (address as listed above).

National Rural Health Week

The American Medical Association, with the cooperation of the American Dental Association,

American Hospital Association, American Veterinary Medical Association, U. S. Department of Agriculture, and Health, Education and Welfare, and the National Safety Council, will sponsor a "National Rural Health Week" (NRHW), April 4-10, 1976, to focus the attention of the nation on health care delivery problems in rural America. NRHW is an event of the Bicentennial Celebration.

The conference will be held at the Hyatt Regency Phoenix, Phoenix, Arizona. For detailed information contact: Bond L. Bible, Ph.D., Director, Department of Rural and Community Health, American Medical Association,

Division of Medical Practice, 535 North Dearborn Street, Chicago, Illinois 60610.

EDUCATIONAL OPPORTUNITY ANNOUNCEMENTS

Seminar: Post-Graduate Course in Coronary Care*. Date: 1-5-75 thru 1-9-75. Program Director: Malcolm B. Pearce, M.D.

Seminar: New Developments in Renal Disease*. Date: 1-17-76 thru 1-18-76. Program Director: B. N. Saltzman, M.D., Chairman, Dept. Family & Community Medicine, U. of Ark. College of Medicine.

*For more details, contact the Department of Continuing Education for Physicians, University of Arkansas For Medical Sciences Campus, 4301 West Markham, Little Rock, Arkansas 72201.



PERSONAL AND NEWS ITEMS

Dr. Biondo Leads Boy Scout Activities

Dr. Raymond V. Biondo of North Little Rock was chairman of the Exploring Seminar Staff for the three-day South Central Region Area I Training Conference for the Boy Scouts of America. The seminar, held at the Little Rock Air Force Base, was aimed at encouraging Explorers (the young adult division of the Boy Scouts) to pursue health careers.

Physician Locates

Dr. George H. Benjamin has associated his medical practice with the Siloam Springs Medical Clinic. Drs. James Huskins, Billy Puckett, Charles Stinnett, and John Moose announced Dr. Benjamin's association recently.

Dr. Thompson Speaks to Nurses

Dr. Samuel Thompson of Little Rock spoke on Cerebral Palsy at the November meeting of the Central Arkansas Chapter of Orthopedic Nurses Association. The association recently received its charter from the national headquarters in Atlanta, Georgia.

Dr. Hawkins Locates in Mountain Home

Dr. Michael L. Hawkins opened his office

on December 1st at 812 Baker Street, Mountain Home, for the practice of general surgery. Dr. Hawkins previously practiced in Corpus Christi, Texas.

Dr. Shorey Announces Accreditation

Dr. Winston Shorey of Little Rock, Associate Dean for Continuing Medical Education at the University of Arkansas College of Medicine, announced that the American Medical Association notified the University that full accreditation has been awarded its continuing medical education program for practicing physicians. Accreditation was granted following an on-site visit to the University by a team from the AMA Council on Medical Education.

Dr. Bailey Presents Paper

Dr. Ted Bailey presented a paper entitled "Use of Ultrasound Through the Round Window in Treatment of Meniere's Disease", at the recent meeting of the Mexican chapter of the Pan American Association of Ear, Nose and Throat Doctors recently held in Acapulco, Mexico. The meeting was at the Acapulco Princess Hotel on September the 26, 27, 28, and 29th.



NEW MEMBERS

Dr. G. Errol King

Dr. G. Errol King is a new member of the Jefferson County Medical Society. He is a native of St. Vincent, British West Indies.

After receiving his B.S. degree in 1963 from the University of West Indies, Kingston, Jamaica, he was graduated from the University's School of Medicine in 1966. He completed his internship and residency in General Surgery at Lenox Hill Hospital, New York, New York.

Dr. King is now practicing General Surgery at 817 Cherry, Pine Bluff.

Dr. Henri Melvin Hegwood

The Jefferson County Medical Society has accepted Dr. Henri M. Hegwood for membership. He is a native of Meridian, Mississippi.

Dr. Hegwood received his B.S. degree in 1965 from Mississippi State University. He was graduated from the University of Mississippi School of Medicine, Jackson, in 1968. He completed his internship at Portsmouth, Virginia, and a residency at the University of Mississippi School of Medicine, Jackson. Dr. Hegwood practiced family medicine for two and one-half years in Raleigh, Mississippi.

He is now practicing Radiology at 1608 West 42nd Street, Pine Bluff.

Dr. Phillip L. White

The Howard-Pike County Medical Society has accepted Dr. Phillip L. White for membership. Dr. White is a native of Hope, Arkansas.

He graduated from Ouachita Baptist University, Arkadelphia, Arkansas, with a B.S. degree in 1970. Dr. White was graduated from the University of Arkansas School of Medicine in 1974. He completed his internship and residency in Family Practice at the Baptist Medical Center in Little Rock.

Dr. White is now in Family Practice at 510 North Washington, Murfreesboro, associated with Dr. Hiram T. Ward.

Dr. Jim Charles Kizziar

The Pulaski County Medical Society has accepted Dr. Jim C. Kizziar, a native of Clons, New Mexico, for membership.

Dr. Kizziar graduated from the University of Arkansas with a B.S. degree in 1963, and he was graduated from the University of Arkansas School of Medicine in 1969. Following the completion of his internship at the University of Arkansas Medical Center, he completed a residency in Medicine in 1971, and a residency in Cardiology in 1972, also at the Medical Center. He is Board Certified by the American Board of Internal Medicine.

Dr. Kizziar is now practicing Cardiology at the Little Rock Diagnostic Clinic, 10001 Lile Drive, Little Rock.

Dr. Ralph Edward Williams

The Boone County Medical Society has accepted Dr. Ralph E. Williams for membership. He is a native of Oakland, California.

A 1947 graduate of Yale University, New Haven, Connecticut, Dr. Williams was graduated from the Boston University School of Medicine, Boston, Massachusetts. His internship was served at Baltimore City Hospitals, Maryland, and he completed a residency in Orthopedics at Wayne State University School of Medicine, Detroit, Michigan. Dr. Williams served in the United States Army from 1943 until 1946, and the United States Navy from 1949 until 1952. He practiced at the San Antonio Community Hospital, Upland, California, from 1956 until 1975. Dr. Williams is Board Certified by the American Board of Orthopedic Surgeons. He is a member of the American Association of Orthopedic Surgeons.

Dr. Williams is now practicing at 302 Rice Street in Berryville.

Dr. Robert Clary Butler

The Jefferson County Medical Society has added the name of Dr. Robert C. Butler to its membership roll. He is a native of Batesville, Arkansas.

Dr. Butler received his B.S. degree in 1962 from Arkansas A and M College, Pine Bluff. He was graduated from the University of Arkansas School of Medicine in 1966. Following the completion of his internship at Menorah Medical Center, Kansas City, Missouri, Dr. Butler served for two years in the United States Navy. From 1967 until 1972, he was a resident in Internal Medicine at the University of Arkansas Medical Center. Dr. Butler is Board Certified by the American Board of Internal Medicine, and a

member of the American Society of Gastrointestinal Endoscopy and the American College of Physicians.

Dr. Butler is now practicing Gastroenterology at 1624 West 42nd in Pine Bluff.

Dr. Orion H. Stuteville

The Van Buren County Medical Society has accepted Dr. Orion H. Stuteville, a native of Okeene, Oklahoma, as a new member.

Dr. Stuteville is a 1926 graduate of Oklahoma A and M College, Stillwater. He was graduated from the Northwestern University Medical School, Chicago, in 1939. Following his internship and residency in General Surgery at St. Joseph's Hospital in Chicago, he served in the United States Army Medical Corps from 1942 until 1946. From 1946 until 1975, Dr. Stuteville was associated with the Northwestern University Medical School and Loyola University School of Medicine as a teaching professor of plastic surgery. He is Board Certified by the American Board of Plastic Surgery, and a member of the American Association of Plastic Surgeons, American College of Surgeons, and the International College of Surgeons.

Dr. Stuteville is now practicing at the Leslie Hospital in Leslie.

Dr. Clifton Lavoy Parnell, III

Dr. Clifton L. Parnell, III, is a new member of the Pulaski County Medical Society. He is a native of El Dorado, Arkansas.

Dr. Parnell is a graduate of Southern State College, Magnolia, Arkansas. He received his M.D. degree in 1970 from the University of Arkansas School of Medicine and he completed both his internship and a residency in General Surgery at the same institution.

Dr. Parnell is now practicing at the Little Rock Air Force Base Hospital in Jacksonville.

Dr. Sanford Irwin Roth

The Pulaski County Medical Society has added the name of Dr. Sanford I. Roth to its membership roll. He is a native of McAlester, Oklahoma.

Dr. Roth graduated from Vanderbilt University, Nashville, Tennessee, in 1952. He was graduated from Harvard Medical School, Boston, Massachusetts, in 1956. He completed both his internship and Pathology residency at Massachusetts General Hospital in Boston. Dr. Roth is Board Certified (Anatomic Dermatopathology) by the American Board of Pathology.

Dr. Roth is now associated with the Univer-

sity of Arkansas College of Medicine, Department of Pathology, in Little Rock.



OBITUARY

Dr. James O. Cooper

Dr. James O. Cooper of Little Rock died October 16, 1975, at the age of fifty-six. He was born in Hamburg, Arkansas, November 28, 1918.

Dr. Cooper was a 1942 graduate of the University of Arkansas School of Medicine. Following his internship at the San Diego County Hospital in California, he served as a lieutenant in the United States Navy Medical Corps. In 1948, he completed his pediatric residency at Washington University, St. Louis, Missouri. Dr. Cooper had been associated with the Pediatric Department and the Community and Family Medicine Department at the University of Arkansas Medical Sciences Campus since 1965, following seventeen years of pediatric practice in El Dorado.

He was a Diplomate of the American Board of Pediatrics and a Fellow of the American Academy of Pediatrics. Dr. Cooper was a member of the Pulaski County Medical Society, Arkansas Medical Society, and Central Arkansas Pediatric Society. He was director of the first Pediatric nurse practitioner program in the State, which was conducted at the Arkansas Children's Hospital in Little Rock from 1972 until 1974.

Dr. Cooper is survived by his wife, Mary Cecelia, two sons, and two daughters.

Dr. Robert M. Franklin

Dr. Robert M. Franklin, age thirty-seven, of Russellville, died October 10, 1975. He was a native of Magnolia, Arkansas.

Dr. Franklin graduated from the University of Arkansas School of Medicine in 1963. He was a medical consultant for the Arkansas Rehabilitation Association and the Atomic Energy Commission.

He was a member of the Pope County Medical Society, Arkansas Medical Society, American Medical Association, and the Arkansas Kidney Commission. He was an Eagle Scout and a veteran of the Vietnam war.

Dr. Franklin is survived by his wife, Suzanne, one son, and one daughter.

ARKANSAS MEDICAL SOCIETY

MEMBERSHIP ROSTER

December 1, 1975



HEADQUARTERS OFFICE:
214 NORTH 12TH STREET
POST OFFICE BOX 1208
FORT SMITH, ARKANSAS 72901
TELEPHONE: 501 782-8218

MEMBERSHIP ROSTER OF THE ARKANSAS MEDICAL SOCIETY 1975-76

Type of Practice	Member's Name	Address	Telephone Number
ARKANSAS COUNTY			
CD	Bethell, John P., Jr.	1814 N. Henderson, Stuttgart 72160	673-2658
R	Burroughs, Clement D.	Stuttgart Memorial Hospital, Stuttgart 72160	673-3511
FP	Cross, Joseph E.	P. O. Box 472, DeWitt 72042	946-1676
FP	Guyer, G. L.	Route 1, Box 21-D, Stuttgart 72160	673-7211
FP	Hestir, John M.	220 W. Gibson, DeWitt 72042	946-3637
FP	John, Milton C.	Route 1, Box 21-D, Stuttgart 72160	673-7211
GS	Ligon, Ralph E.	Route 1, Box 21-D, Stuttgart 72160	673-7211
GS	Millar, Paul H.	Route 1, Box 21-D, Stuttgart 72160	673-7211
FP	Morgan, Jerry D.	Route 1, Box 21-D, Stuttgart 72160	673-7211
GP	McCracken, Elbert A.	509 S. Main, Stuttgart 72160	673-8571
FP	Northcutt, Carl E.	Route 1, Box 21-D, Stuttgart 72160	673-7211
FP	Pritchard, Jack L.	1022 S. Main, Stuttgart 72160	673-2331
IM	Rasco, C. W., Jr.	111 S. Jackson, DeWitt 72042	946-3156
GP	Stone, Fred B.	P. O. Box 647, Stuttgart 72160	673-2626
FP	Van Duyn, Thomas S.	P. O. Box 110, Stuttgart 72160	673-7291
GP	Whitehead, R. H.	121 N. Adams, DeWitt 72042	946-4181
ASHLEY COUNTY			
FP	Bradley, William G.	310 N. Alabama, Crossett 71635	364-6478
FP	Bui, Thieu	P. O. Box 248, Wilmot 71676	473-2274
FP	Burt, Frederick N.	310 N. Alabama, Crossett 71635	364-2137
FP	Cothern, William R.	P. O. Box 577, Crossett 71635	364-6111
FP	De, Ton That	P. O. Box 248, Wilmot 71676	473-2274
	Edwards, Lawrence E.	Niceville, Florida	
FP	Mask, Don L.	606 W. Parker, Hamburg 71646	853-5593
FP	Rankin, James D., Jr.	P. O. Box 232, Hamburg 71646	853-8271
FP	Ripley, C. E.	317 N. Alabama, Crossett 71635	364-5113
GS	Salb, Robert L.	113 Pine, Crossett 71635	364-2138
FP	Toon, D. L.	310 N. Alabama, Crossett 71635	364-5762
BAXTER COUNTY			
TS	Abraham, K. Simon	Green Valley Drive, Mountain Home 72653	425-6991
FP	Arnold, Carl B.	Salem Clinic, Salem 72576	895-3281
FP	Beard, Arthur L.	126 W. 6th, Mountain Home 72653	425-3131
FP	Black, John P.	353 E. 8th, Mountain Home 72653	425-3125
FP	Bozeman, Jimmy G.	Highway 9 North, Salem 72576	895-3281
IM	Cheney, Maxwell G.	353 E. 8th, Mountain Home 72653	425-3125
RD	DeLany, Clarence L.	Fulton County Hospital, Salem 72576	895-3226
ANES	Ducker, David E.	P. O. Box 547, Salem 72576	895-3215
FP	Dunbar, James C.	617 S. Baker, Mountain Home 72653	425-2020
FP	Gotaas, Bernice E.	P. O. Box 44, Bull Shoals 72619	445-4755
FP	Grasse, A. Meryl	P. O. Box 438, Calico Rock 72519	297-3726
GS	Guenther, John F.	126 W. 6th, Mountain Home 72653	425-3131
GS	Hawkins, Michael L.	812 Baker, Mountain Home 72653	425-6988
RD	Hildebrand, Eugene	Route 3, Mountain Home 72653 (Res.)	491-5240
FP	Kelley, Lawrence A.	P. O. Box 342, Bull Shoals 72619	445-4292
FP	Kerr, Robert L.	P. O. Box 432, Mountain Home 72653	425-6971
GS	Langevin, Jack A.	P. O. Box 348, West Plains, Missouri 65775	417-256-8161
OPH	Massey, James Y.	613 South St., Mountain Home 72653	425-6026
FP	Moody, Michael N.	Salem Clinic, Salem 72576	895-3281
PATH	Peterson, Hubert C.	Baxter General Hospital, Mountain Home 72653	452-3141
OPH	Sneed, John W., Jr.	P. O. Drawer H, Mountain Home 72653	425-6026
FP	Snow, William R.	353 E. 8th, Mountain Home 72653	425-3125
IM	Tolleson, William J.	126 W. 6th, Mountain Home 72653	425-3131
FP	Tucker, Charles L.	P. O. Box 38, Ash Flat 72513	994-7301
FP	Wilson, Jack C.	353 E. 8th, Mountain Home 72653	425-3125
R	Wilson, M. Carolyn	Route 6, Box 373, Mountain Home 72653	492-5481
BENTON COUNTY			
P	Ball, Eugene H.	Route 2, Box 53, Rogers 72756	636-8307
RD	Casebeer, R. L.	Route 3, South Park Rd., Rogers 72756 (Res.)	636-4812
FP	Clower, John D.	P. O. Box 737, Rogers 72756	636-2711
FP	Cohagan, Donald L.	408 N.W. "I", Bentonville 72712	273-5543
FP	Compton, Neil E.	VA Hospital, Fayetteville 72701	443-2301
R	Cooper, Edward M.	Concordia Medical Clinic, Bella Vista 72712	855-3781
PATH	Denman, David A.	Rogers Memorial Hospital, Rogers 72756	636-0200
FP	Garrett, John L.	P. O. Box 369, Gravette 72736	787-5291
FP	Hall, Billy V.	P. O. Box 369, Gravette 72736	787-5221
PD	Harmon, Harry M.	601 W. Walnut, Rogers 72756	636-9234
FP	Hitt, Jerry L.	P. O. Box 737, Rogers 72756	636-2711
FP	Howard, Willard H.	903 N.W. 9th, Bentonville 72712	273-5551
FP	Hull, Robert R.	1301 W. Persimmon, Rogers 72756	636-7004
RD	Jackson, James L.	309 S. Main, Bentonville 72712 (Res.)	273-2173
GS	Jennings, William E.	P. O. Box 737, Rogers 72756	636-2711
R	Knapp, James R.	Rogers Memorial Hospital, Rogers 72756	636-0200
IM	Miles, Richard W.	P. O. Box 737, Rogers 72756	636-2711
FP	McCollum, Edward N.	P. O. Box 127, Decatur 72722	752-3233
GS	Pearson, Richard N.	1105 W. Chestnut, Rogers 72756	636-5411
OPH	Pickens, James L.	P. O. Box 128, Rogers 72756	636-3220
OTO	Reese, Michael C.	1110 W. Elm, Rogers 72756	636-0110
FP	Rollow, John A.	408 N.W. "I", Bentonville 72712	273-2497
FP	Ronald, Douglas C.	Concordia Medical Center, Bella Vista 72712	855-7161
FP	Warren, Grier D.	P. O. Box 737, Rogers 72756	636-2711
FP	Weaver, Donald D.	P. O. Box 9, Gentry 72734	736-2213
FP	Weaver, Robert H.	P. O. Box 9, Gentry 72734	736-2213
FP	Webb, William F.	P. O. Box 368, Decatur 72722	752-3233
FP	White, Harry M.	P. O. Box 737, Rogers 72756	636-2711
IM	Wilson, Stewart M.	P. O. Box 737, Rogers 72756	636-2711
BOONE COUNTY			
GS	Bell, Thomas E.	P. O. Box 1116, Harrison 72601	365-6418
R	Bennett, Joe D.	651 N. Spring, Harrison 72601	365-9667
OTO	Chambers, Carlton L., III	651 N. Spring, Harrison 72601	365-7684
PD	Chambers, Elizabeth S.	651 N. Spring, Harrison 72601	365-7684
FP	Daniel, Charles D.	P. O. Box E, Marshall 72650	448-3327
U	Ferguson, Noel F.	651 N. Spring, Harrison 72601	365-9481
FP	Fowler, Ross E.	217 W. Stephenson, Harrison 72601	365-8651
GS	Gladden, Jean C.	P. O. Box 1118, Harrison 72601	365-8275

Type of Practice	Member's Name	Address	Telephone Number
FP	Hammon, Albert R.	P. O. Box 1076, Harrison 72601	365-5461
GS	Hoberock, Thomas R.	651 N. Spring, Harrison 72601	365-7411
TS	Hudson, William A.	P. O. Box 237, Jasper 72641	446-2203
FP	Jackson, Ulys	118 S. Pine, Harrison 72601	365-5333
FP	Kirby, Henry V.	651 N. Spring, Harrison 72601	365-5022
PATH	Kreutzer, Donald W.	Boone County Hospital, Harrison 72601	365-6141
OPH	Kuharich, Robert M.	707 N. Vine, Harrison 72601	365-9492
FP	Langston, Robert H.	520 N. Spring, Harrison 72601	365-8286
OR	Ledbetter, Charles A.	120 E. Bower, Harrison 72601	365-8289
O&G	Mahoney, Paul L., Jr.	651 N. Spring, Harrison 72601	365-7334
FP	Maris, Mahlon O.	P. O. Box 759, Harrison 72601	365-8247
FP	McCoy, O. B.	P. O. Box 578, Harrison 72601	365-3592
RD	Owens, D. L.	P. O. Box 875, Harrison 72601	365-3232
R	Robinson, G. Allen	P. O. Box 728, Harrison 72601	365-2763
FP	Russell, David M.	P. O. Box 1019, Harrison 72601	365-8155
FP	Scroggins, Sam J.	520 N. Spring, Harrison 72601	365-8286
O&G	Simpson, Thomas J.	651 N. Spring, Harrison 72601	365-2441
IM	Smith, Van	P. O. Box 1077, Harrison 72601	365-3459
R	Thomas, Leo D.	651 N. Spring, Harrison 72601	365-9667
OR	Vowell, Don R.	120 E. Bower, Harrison 72601	365-8289
FP	Wallace, Oliver	P. O. Drawer AA, Green Forest 72638	438-5218
OR	Williams, Ralph E.	302 Rice St., Berryville 72616	423-3338
GS	Williams, Rhys A.	P. O. Box 1118, Harrison 72601	365-8275
FP	Wilson, Joe Bill	520 N. Spring, Harrison 72601	365-8286

BRADLEY COUNTY

GP	Crow, Merl T.	205 E. Church, Warren 71671	226-5811
FP	Marsh, James W.	302 N. Main, Warren 71671	226-2112
FP	Whaley, W. C.	205 E. Church, Warren 71671	226-5811
FP	Wynne, George F.	113 W. Cypress, Warren 71671	226-2844

CHICOT COUNTY

FP	Blackmon, Charles D.	Lake Village Clinic, Lake Village 71653	265-5343
GS	Burge, John H.	Lake Village Clinic, Lake Village 71653	265-5343
GS	Burge, John P.	Lake Village Clinic, Lake Village 71653	265-5343
FP	Henjyoji, Howard S.	Lake Village Clinic, Lake Village 71653	265-5343
FP	Smiley, George W.	Lake Village Clinic, Lake Village 71653	265-5343
FP	Smith, Major E.	P. O. Box 310, Dermott 71638	538-5717
FP	Talbot, Allen G.	Lake Village Clinic, Lake Village 71653	265-5343
GP	Thomas, H. W.	105 N. Freeman, Dermott 71638	538-5255
FP	Weaver, William J.	P. O. Box Q, Eudora 71640	355-4376
FP	Wilson, Thomas C.	115 E. Peddicord, Dermott 71638	538-5253

CLARK COUNTY

GS	Anderson, P. R.	416 Main, Arkadelphia 71923	246-2431
FP	Balay, John W.	416 Main, Arkadelphia 71923	246-2431
GS	Blackmon, James T.	1008 Pine, Arkadelphia 71923	246-6734
RD	Clark, Charles G.	1108 Huddleston, Arkadelphia 71923 (Res.)	246-4493
FP	Gary, Eli	P. O. Box 475, Arkadelphia 71923	246-2491
FP	Luck, Herman D.	Route 1, Box 2S, Arkadelphia 71923	246-2471
FP	Mann, R. Jerry	416 Main, Arkadelphia 71923	246-2431
FP	Nunnally, Robert H.	353 Cash Rd., Camden 71701	836-8101
NP	Parsons, Earl	117 N. 11th St., Arkadelphia 71923	246-8364
FP	Peeples, George R.	305 E. Main, Gurdon 71743	353-4422
GS	Sellers, John R.	Arkadelphia Medical Clinic, Arkadelphia 71923	246-2471
FP	Speer, Hoy B., Jr.	204 N. 26th, Arkadelphia 71923	246-5866
R	Speer, Marolyn N.	1420 W. Pine, Arkadelphia 71923	246-2441
R	Stevens, David G.	1912 Walnut, Arkadelphia 71923	246-5303
FP	Stover, Curtis E.	204 N. 26th, Arkadelphia 71923	246-5866
PD	Toombs, Vernon L.	P. O. Box 70, Arkadelphia 71923	246-5851

CLEBURNE COUNTY

OPH	Baldrige, Max	P. O. Box 431, Heber Springs 72543	362-3479
RD	Barnett, James C.	Front St., Heber Springs 72543	362-2786
GP	Barnett, Michael E.	4th and Spring, Heber Springs 72543	362-3143
FP	Hinkle, Richard A.	P. O. Box 128, Quitman 72131	589-2600
GP	McClanahan, D. H.	401 W. Searcy, Heber Springs 72543	362-2414
FP	Poff, Nathan L.	401 W. Searcy, Heber Springs 72543	362-2414
R	Scruggs, Joe B.	P. O. Box 510, Heber Springs 72543	362-3121
A	Sharp, Jack V.	Highway 110 W., Box 70, Heber Springs 72543	362-3316
FP	Smith, W. Wayne	421 S. 7th, Heber Springs 72543	362-2451
FP	Wells, William M.	4th and Spring, Heber Springs 72543	362-3644

COLUMBIA COUNTY

FP	Alexander, John E.	707 N. Washington, Magnolia 71753	234-2288
PD	Baldwin, Ronald L.	110 W. North, Magnolia 71753	234-4411
FP	Farmer, John M.	104 E. Columbia, Magnolia 71753	234-2230
R	Hunter, Robert W.	1217 Bluebird, Magnolia 71753	234-6117
GP	Jones, T. H.	P. O. Box 387, Waldo 71770	693-5634
FP	Kelley, Charles W.	105 W. North, Magnolia 71753	234-5544
GS	McMahan, H. Scott	P. O. Box 647, Magnolia 71753	234-3340
FP	Ruff, John L.	104 Hospital Rd., Magnolia 71753	234-2144
GS	Rushton, Joseph F.	219 N. Washington, Magnolia 71753	234-1168
GP	Sizemore, Paul	123 N. Jackson, Magnolia 71753	234-3040
FP	Walker, Jack T.	123 N. Jackson, Magnolia 71753	234-3040
FP	Weber, Charles H.	110 W. North, Magnolia 71753	234-4411
FP	*Weber, Charles L.	Magnolia	
FP	Wilson, John H.	123 N. Jackson, Magnolia 71753	234-3040

CONWAY COUNTY

FP	Buchanan, Thomas L.	200 S. Moose, Morrilton 72110	354-4637
FP	Evans, Clifford L.	P. O. Box 677, Morrilton 72110	354-2456
FP	Hickey, Thomas H.	Highway 64 East, Morrilton 72110	354-4624
GP	Owens, Gastor B.	P. O. Box 536, Morrilton 72110	354-4505
IM	Siddon, William H.	P. O. Box 587, Morrilton 72110	354-5555
FP	Wells, Charles F.	601 S. Moose, Morrilton 72110	354-2123
FP	White, Henry B.	P. O. Box 230, Morrilton 72110	354-4623

CRAIGHEAD-POINSETT COUNTY

D	Alston, Herman D.	816 Cobb, Jonesboro 72401	932-4570
EM	Barnett, Horace C.	1301 Terrace Ct., Jonesboro 72401 (Res.)	932-7795

Type of Practice	Member's Name	Address	Telephone Number
OBG	Basinger, James W.	505 E. Matthews, Jonesboro 72401	935-3990
RD	Bell, William K.	517 W. Jefferson, Jonesboro 72401 (Res.)	932-9113
O8G	Berry, Donald M.	P. O. Box 1478, Jonesboro 72401	935-3990
OPH	Blanton, Martin E.	808 S. Church, Jonesboro 72401	932-8433
P	Blaylock, Jerry D.	505 E. Matthews, Jonesboro 72401	935-0360
U	Bogaev, Leonard R.	812 Cobb, Jonesboro 72401	932-2926
IM	Burns, Richard G.	505 E. Matthews, Jonesboro 72401	932-1198
IM	Clopton, Owen H., Jr.	505 E. Matthews, Jonesboro 72401	932-1198
HEMA	Cohen, Robert S.	223 E. Jackson, Jonesboro 72401	972-0063
FP	Craig, Gus A.	920 Union, Jonesboro 72401	932-3022
OR	Dickson, Glenn E.	505 E. Matthews, Jonesboro 72401	932-1820
OTO	Eddington, William R.	505 E. Matthews, Jonesboro 72401	935-8132
OR	Edwards, Harvey O.	924 S. Main, Jonesboro 72401	935-9123
GS	Faris, John C.	907 Union, Jonesboro 72401	935-8470
FP	Forestiere, A. J.	P. O. Box 106, Harrisburg 72432	578-5443
R	Garner, William L.	224 E. Matthews, Jonesboro 72401	932-7458
OTO	Gossett, Clarence E.	505 E. Matthews, Jonesboro 72401	935-8132
R	Green, William R.	900 Sequoia, Jonesboro 72401 (Res.)	932-0805
NP	Guthrie, Alastair	2711 S. Caraway Rd., Jonesboro 72401	932-0692
GP	Harper, Thomas P.	P. O. Box C, Monette 72447	486-2131
GS	Hogue, Ernest L.	311 E. Matthews, Jonesboro 72401	932-8323
R	Holland, James A.	226 E. Matthews, Jonesboro 72401	932-7458
PD	Johnson, Roehl W.	505 E. Matthews, Jonesboro 72401	935-6012
	Jones, R. J.	8arksdale AF8, Louisiana	
GS	Keisker, H. W.	505 E. Matthews, Jonesboro 72401	932-4581
PD	Kemp, Charles E.	505 E. Matthews, Jonesboro 72401	935-6012
O8G	Kirkley, John B.	P. O. Box 1478, Jonesboro 72401	935-3990
PATH	Kroe, Donald J.	411 E. Matthews, Jonesboro 72401	932-7430
FP	Lawrence, Robert O., Jr.	417 E. Matthews, Jonesboro 72401	972-0550
FP	Ledbetter, Joseph W.	804 S. Church, Jonesboro 72401	935-5454
OR	Mahon, Larry E.	924 S. Main, Jonesboro 72401	935-9123
ANES	Mitchell, George E.	818 Cobb, Jonesboro 72401	932-4211
FP	Modelevsky, A. C.	1004 Wall, Jonesboro 72401	932-0980
RD	McCurry, John H.	2631 S. 12th, St. Louis, Missouri 63118 (Res.)	NF
OPH	McKee, Bobby E.	505 E. Matthews, Jonesboro 72401	935-6396
FP	Peeler, M. O.	Southgate Plaza, Jonesboro 72401	935-8510
P	Peirce, Charlotte T.	2920 McClellan Dr., Jonesboro 72401	972-4032
FP	Plunk, Hermie G.	5005 E. Nettleton, Jonesboro 72401	932-1181
FP	Poff, Joseph H.	118 E. Main, Trumann 72472	483-7611
GP	Poole, Grover D.	P. O. Box 10, Jonesboro 72401	932-2634
P	Price, Edwin F.	P. O. Box 5033, Jonesboro 72401	972-0290
PD	Rainwater, W. T.	505 E. Matthews, Jonesboro 72401	935-6012
FP	Raney, Bascom P.	403 E. Matthews, Jonesboro 72401	935-5529
FP	Reynolds, Roland C.	801 Osler Dr., Jonesboro 72401	932-2423
P	Richardson, William W.	2920 McClellan, Jonesboro 72401	972-4029
FP	Robinette, James M.	801 Osler Dr., Jonesboro 72401	932-2423
D	Rogers, James F.	505 E. Matthews, Jonesboro 72401	935-4755
GS	Sanders, James W.	505 E. Matthews, Jonesboro 72401	932-4875
RD	Shanlever, R. C.	1103 Wilkins, Jonesboro 72401 (Res.)	932-2450
OR	Shanlever, W. T.	924 S. Main, Jonesboro 72401	935-9123
IM	Shepherd, W. F.	505 E. Matthews, Jonesboro 72401	932-8121
+	Smith, Bob W.	4301 W. Markham, Little Rock 72201	664-5000
FP	Smith, Floyd A., Jr.	415 W. Main, Trumann 72472	483-6411
FP	Smith, Vestal B.	P. O. Box 614, Marked Tree 72365	358-2811
R	Smoot, John D.	P. O. Box 934, Jonesboro 72401	932-9022
ANES	Sparks, E. Barrett	818 Cobb, Jonesboro 72401	932-4211
FP	Stallings, Joe H., Jr.	417 E. Matthews, Jonesboro 72401	972-0550
EM	Starnes, C. Wayne	224 E. Matthews, Jonesboro 72401	972-4199
O8G	St. Clair, John T., Jr.	505 E. Matthews, Jonesboro 72401	935-3990
GS	Stroud, Paul T.	P. O. Box 818, Jonesboro 72401	932-8323
FP	Swingle, Charles G.	105 Nathan, Marked Tree 72365	358-2036
	Taylor, G. Wayne	San Francisco, California	
FP	Thomas, James F.	Southgate Plaza, Jonesboro 72401	935-8510
FP	Utley, Anne C.	Infirmiry, State University 72467	972-2054
OPH	Utley, Phillip M.	920 S. Main, Jonesboro 72401	932-8221
FP	Verser, Joe	P. O. Box 106, Harrisburg 72432	578-2677
PATH	Vollman, Don B.	411 E. Matthews, Jonesboro 72401	932-7430
OPH	Webb, James W.	920 S. Main, Jonesboro 72401	932-8221
EM	Whittington, J. J., III	224 E. Matthews, Jonesboro 72401	972-4265
U	Williams, E. Walden	812 Cobb, Jonesboro 72401	932-2926
GS	Wilson, F. M.	505 E. Matthews, Jonesboro 72401	932-1987
PATH	Wilson, Joseph T., Jr.	411 E. Matthews, Jonesboro 72401	932-7430
FP	Wisdom, Durwood	505 E. Matthews, Jonesboro 72401	932-8121

CRAWFORD COUNTY

FP	Darden, L. R.	P. O. Box 623, Van Buren 72956	474-3224
FP	Edds, Millard C.	1103 Chestnut, Van Buren 72956	474-2361
FP	Hopkins, Ed G.	1103 Chestnut, Van Buren 72956	474-2361
FP	Parkhurst, Yale E.	1103 Chestnut, Van Buren 72956	474-2361
FP	Shearer, F. E.	P. O. Box 458, Alma 72921	474-9539

CRITTENDEN COUNTY

FP	Deneke, Milton D.	P. O. Box 607, West Memphis 72301	735-1170
O8G	Ferguson, T. Murray	200 S. Rhodes, West Memphis 72301	735-2150
P	Fisher, Donald E.	P. O. Box 1248, West Memphis 72301	735-6923
O8G	Ford, Robert C., Jr.	200 S. Rhodes, West Memphis 72301	735-2150
FP	Hamilton, Ralph B.	300 S. Rhodes, West Memphis 72301	735-1170
GS	Jay, Gilbert D., III	200 S. Rhodes, West Memphis 72301	735-4612
OPH	Kennedy, Keith B.	P. O. Box 489, West Memphis 72301	735-7680
GS	Lanford, H. G.	308 S. Rhodes, West Memphis 72301	735-3664
FP	Lubin, Milton	200 S. Rhodes, West Memphis 72301	735-3919
FP	Miller, James L.	300 S. Rhodes, West Memphis 72301	735-1170
IM	Peebles, Chester W.	302 S. Rhodes, West Memphis 72301	735-1973
GS	Schoettle, Glenn P.	308 S. Rhodes, West Memphis 72301	735-3664
	Shrader, Floyd R.	Enid, Oklahoma	
FP	Smith, Bedford W.	300 S. Rhodes, West Memphis 72301	735-1170
IM	Taylor, C. H., Jr.	302 S. Rhodes, West Memphis 72301	735-1973
R	Utley, L. Thomas	200 Tyler, West Memphis 72301	735-1500
FP	Winters, W. Lee	11 E. Holiday Plaza, West Memphis 72301	735-8751
FP	Wright, William J.	P. O. Box 608, Earle 72331	792-8956

Type of Practice	Member's Name	Address	Telephone Number
CROSS COUNTY			
FP	Beaton, K. E.	P. O. Box 158, Wynne 72396	238-2321
FP	Bethell, Robert D.	P. O. Box 158, Wynne 72396	238-2321
FP	Burks, Willard G.	P. O. Box 158, Wynne 72396	238-2321
FP	Crain, Vance J.	P. O. Box 158, Wynne 72396	238-2321
FP	Hayes, Robert A.	P. O. Box E, Wynne 72396	238-3261
FP	Jacobs, James R.	P. O. Box E, Wynne 72396	238-3261
FP	Young, J. Hosea	P. O. Box E, Wynne 72396	238-3261
DALLAS COUNTY			
	*Atkinson, H. H.	Fordyce	
FP	Delamore, John H.	P. O. Box 351, Fordyce 71742	352-7117
FP	Dobson, Jack T.	P. O. Box 816, Fordyce 71742	352-5125
FP	Howard, Don Gene	P. O. Box 506, Fordyce 71742	352-3151
FP	Nutt, Hugh A.	110 N. Clifton, Fordyce 71742	352-3151
FP	Taylor, George D.	Sparkman Clinic, Sparkman 71763	678-2406
DESHA COUNTY			
FP	Harris, Howard R.	207 S. Elm, Dumas 71639	382-4425
FP	Hoagland, Robert A.	145 W. Waterman, Dumas 71639	382-4878
FP	Moss, Swan B.	102 N. 4th, McGehee 71654	222-3141
FP	Prosser, Robert L., III	600 Holly, McGehee 71654	222-6131
FP	Robinson, Guy U.	207 S. Elm, Dumas 71639	382-4425
FP	Turney, Lonnie R.	101 S. 3rd, McGehee 71654	222-4044
DREW COUNTY			
FP	Binns, Van C.	203 E. Trotter, Monticello 71655	367-3531
FP	Busby, Arlee K.	733 Doctors Dr., Monticello 71655	367-3246
FP	Hicks, Charles E.	232 S. Main, Monticello 71655	367-5251
FP	Holder, James B.	VA Hospital, North Little Rock 72114	372-8361
FP	Hyatt, C. Lewis	P. O. Box 299, Monticello 71655	367-5393
GS	Price, J. P., Jr.	216 S. Main, Monticello 71655	367-5258
FP	Wallick, Paul A.	P. O. Box 660, Monticello 71655	367-6867
FAULKNER COUNTY			
FP	Archer, Charles A., Jr.	1419 Caldwell, Conway 72032	329-3803
RD	Banister, Benjamin F., Jr.	1300 Parkway, Conway 72032	NF
FP	Banister, Bob G.	923 Parkway, Conway 72032	329-3824
ANES	Beasley, Margaret D.	P. O. Box 404, Conway 72032	329-8742
FP	Beasley, T. O.	919 Locust, Conway 72032	329-2946
ADM	Benfield, Robert B.	P. O. Box 2181, Little Rock 72203	378-2164
FP	Daniel, Sam V.	574 Locust, Conway 72032	329-6111
FP	Davidson, Dennis O.	1422 Caldwell, Conway 72032	327-1366
FP	Doss, John R.	919 Locust, Conway 72032	329-2946
RD	Downs, J. H.	P. O. Box 56, Nashville 71852 (Res.)	845-2265
R	Garrison, James S.	Conway Memorial Hospital, Conway 72032	329-3831
FP	Gordy, Fred, Jr.	552 Locust, Conway 72032	329-6881
OPH	Magie, Jimmie J.	P. O. Box 1284, Conway 72032	327-4444
GS	Poindexter, Douglas A.	919 Locust, Conway 72032	327-0262
FP	Robinson, Tom F.	923 Parkway, Conway 72032	329-3824
FP	Smith, John D.	923 Parkway, Conway 72032	329-3824
FP	Taylor, Robert L.	810 Parkway, Conway 72032	329-3815
FRANKLIN COUNTY			
FP	Calaway, Robert L.	P. O. Drawer C, Mulberry 72947	997-3941
FP	Ewing, Jon R.	604 W. Commercial, Ozark 72949	667-4111
FP	Ewing, Rebecca F.	604 W. Commercial, Ozark 72949	667-4111
FP	Gibbons, David L.	506 W. Commercial, Ozark 72949	667-2285
ADM	Long, C. C.	P. O. Box 1512, Fort Smith 72901	785-2471
FP	Roberts, William J.	Booneville Medical Clinic, Booneville 72927	674-2455
GARLAND COUNTY			
IM	Adams, Frank M.	236 Central, Hot Springs 71901	623-8751
ANES	Allan, David	600 W. Grand, Hot Springs 71901	NF
IM	Arnold, W. O.	1315 Central, Hot Springs 71901	624-1397
OTO	Atkinson, Robert H.	303 Central Tower Building, Hot Springs 71901	623-6101
	*Black, Thomas N.	Hot Springs	
R	Bohnen, Loren O.	901 W. Grand, Hot Springs 71901	623-6693
OTO	Borg, Robert V.	4409 Central, Hot Springs 71901	624-5422
OPH	Bracken, Ronald J.	505 W. Grand, Hot Springs 71901	624-4478
GS	Brunner, John H.	101 Whittington, Hot Springs 71901	624-5411
U	Burrow, Thomas E.	903 W. Grand, Hot Springs 71901	623-8110
GS	Burton, Frank M.	101 Whittington, Hot Springs 71901	624-5411
GS	Chamberlain, Joe W.	330 6th St., Hot Springs 71901	623-4477
GS	Chamberlain, Warren W.	330 6th St., Hot Springs 71901	623-4477
IM	Clardy, E. K.	P. O. Box 850, Hot Springs 71901	624-1281
	*Coffey, George C.	Hot Springs	
RD	Daniel, R. L.	105 Lowery, Hot Springs 71901 (Res.)	623-9753
FP	Davis, James H.	P. O. Box 315, Mount Ida 71957	867-2175
IM	Dembinski, T. Henry	804 1/2 Central, Hot Springs 71901	623-9781
OPH	Dodson, John W., Jr.	505 W. Grand, Hot Springs 71901	623-4541
OR	Durham, Thomas M.	505 W. Grand, Hot Springs 71901	623-7717
GS	Eisele, W. Martin	101 Whittington, Hot Springs 71901	624-5411
IM	Fotioo, George J.	505 Central Tower Building, Hot Springs 71901	623-5121
GS	French, James H.	101 Whittington, Hot Springs 71901	624-5411
EM	Frye, Ivan L.	9600 W. 12th, Little Rock 72205	227-2300
FP	Gardial, J. Richard	125 Greenwood, Hot Springs 71901	623-3373
FP	Gardner, James L.	125 Greenwood, Hot Springs 71901	623-0904
GS	Garner, Onyx P.	1705 Central, Hot Springs 71901	623-3521
RD	Goetze, Dorothy	104 Curve St., Hot Springs 71901 (Res.)	623-4913
P	Goodin, Lyn A.	211 Hobson, Hot Springs 71901	623-6260
NP	Goodin, Walker D.	211 Hobson, Hot Springs 71901	623-6260
ENT	Goodrum, William A.	801 Central Tower Building, Hot Springs 71901	623-7031
IM	Graham, Richard F.	505 W. Grand, Hot Springs 71901	623-4391
NS	Gupta, Surinder N.	606 Central Tower Building, Hot Springs 71901	624-2554
OBG	Haggard, John L.	101 Whittington, Hot Springs 71901	624-5411
OTO	Harper, Edwin L.	4409 Central, Hot Springs 71901	624-5422

Type of Practice	Member's Name	Address	Telephone Number
RD.	Hebert, Gaston A.	802 Prospect Ave., Hot Springs 71901	623-7216
GS.	Hill, Robert L.	905 W. Grand, Hot Springs 71901	623-9581
IM.	Hoyt, Jerry L.	328 Quapaw, Hot Springs 71901	624-4581
FP.	Hutson, Sanford E., III	125 Greenwood, Hot Springs 71901	623-3373
D.	Irwin, William G.	99 Little Pine, Doctors Park, Hot Springs 71901	624-0673
GYN.	Jackson, Haynes G.	P. O. Box 2067, Hot Springs 71901	623-6628
CD.	Jayaraman, K. K.	110 Hawthorne, Hot Springs 71901	624-4542
OPH.	Johnston, Gaither C.	99 Little Pine, Doctors Park, Hot Springs 71901	624-7106
FP.	Keadle, William R.	408 #B Highway, Glenwood 71943	356-3155
FP.	Kennedy, Jack W.	39 Palacio Circle, Hot Springs Village 71901	922-1447
IM.	King, Leeman H.	236 Central, Hot Springs 71901	623-1545
ANES.	Klugh, Walter G., Jr.	505 W. Grand, Hot Springs 71901	623-9216
RD.	Klugh, Walter G., Sr.	230 Pecan St. Hot Springs 71901 (Res.)	623-2540
PATH.	Knight, Patrick L.	P. O. Box 1460, Hot Springs 71901	623-2518
PATH.	Lee, W. R.	P. O. Box 1460, Hot Springs 71901	623-2518
NP.	Lewis, Robert L.	P. O. Box 850, Hot Springs 71901	624-2354
FP.	Lovell, Clarence R.	414 Albert Pike, Hot Springs 71901	624-1211
FP.	Mashburn, William R.	99 Little Pine, Doctors Park, Hot Springs 71901	623-4453
GS.	Meek, Gary N.	905 W. Grand, Hot Springs 71901	623-9581
U.	Millwee, Robert H., III	903 W. Grand, Hot Springs 71901	623-0082
OR.	Murray, DuBose.	505 W. Grand, Hot Springs 71901	623-7717
OR.	McConkie, Stuart B.	715 W. Grand, Hot Springs 71901	623-5300
GYN.	McCrary, Robert F.	505 W. Grand, Hot Springs 71901	321-2217
PD.	McFarland, Louis R.	211 Hobson, Hot Springs 71901	321-1314
FP.	McMahan, J. C.	306 Albert Pike, Hot Springs 71901	624-2111
PD.	Newton, Doane M.	236 Woodbine, Hot Springs 71901	321-2546
OBG.	Pappas, Deno P.	101 Whittington, Hot Springs 71901	624-5411
FP.	Parkerson, Carl R.	1421 Central, Hot Springs 71901	624-3341
FP.	Parkerson, Cecil W.	1421 Central, Hot Springs 71901	624-3341
IM.	Patterson, Ralph M.	231 Central, Hot Springs 71901	624-5567
ANES.	Peeples, Raymond E.	505 W. Grand, Hot Springs 71901	623-9216
FP.	Power, Allyn R.	236 Central, Hot Springs 71901	623-3102
FP.	Queen, George P.	125 Greenwood, Hot Springs 71901	623-3373
OBG.	Rainwater, W. S.	101 Whittington, Hot Springs 71901	624-5411
FP.	Reed, Lon E.	1315 Central, Hot Springs 71901	624-1207
IM.	Rogers, I. David	101 Whittington, Hot Springs 71901	624-3411
PD.	Rosenzweig, Joseph L.	P. O. Box 2458, Hot Springs 71901	624-2546
IM.	Rowland, E. Driver	110 Hawthorne, Hot Springs 71901	623-5581
GS.	Sammons, Vernon E., Jr.	905 W. Grand, Hot Springs 71901	623-9581
FP.	Sanders, Hallman E.	220 Bafanridge, Hot Springs 71901 (Res.)	624-2869
IM.	Sanders, Lawrence T.	101 Whittington, Hot Springs 71901	624-5411
	*Scully, Francis J.	Hot Springs	
GS.	Seifert, Kenneth A.	P. O. Box 149, Hot Springs Village 71901	922-0540
	Smith, Oliver A.	Houston, Texas	
IM.	Smith, William K.	1401 Medical Arts Building, Hot Springs 71901	623-2171
R.	Springer, M. R., Jr.	901 W. Grand, Hot Springs 71901	623-6693
R.	Springer, William Y.	901 W. Grand, Hot Springs 71901	623-6693
GP.	Stough, D. B.	601 Central Tower Building, Hot Springs 71901	623-6921
D.	Stough, D. B., III	99 Little Pine, Doctors Park, Hot Springs 71901	624-0673
OPH.	Thomas, Wallace A.	P. O. Drawer D, Hot Springs 71901	624-1204
OBG.	Thompson, Thomas P., Jr.	101 Whittington, Hot Springs 71901	624-5411
PD.	Trieschmann, John W.	236 Woodbine, Hot Springs 71901	624-2546
U.	Wade, H. King, Jr.	231 Central, Hot Springs 71901	624-5641
GS.	Wright, Jack.	211 Hobson, Hot Springs 71901	623-6677
P.	Yohe, Charles D.	1402 Medical Arts Building, Hot Springs 71901	623-2517

GRANT COUNTY

FP.	Clark, Curtis B.	200 S. Rose, Sheridan 72150	942-3155
FP.	Irvin, Jack M.	205 W. High, Sheridan 72150	942-3171
RD.	Kelly, Miles F.	P. O. Box 247, Sheridan 72150	942-4152
FP.	Paulk, Clyde D.	200 S. Rose, Sheridan 72150	942-3914

GREENE-CLAY COUNTY

R.	Baker, Augustus J.	P. O. Box 339, Paragould 72450	236-7733
FP.	Baker, Clark M.	115 W. Court, Paragould 72450	236-6356
FP.	Bradsher, Omer E.	#1 Medical Dr., Paragould 72450	239-4011
FP.	Collier, George, Jr.	130 S. 14th, Paragould 72450	236-6946
FP.	Crow, Asa A.	#1 Medical Dr., Paragould 72450	239-4011
FP.	Duckworth, Hillard R.	425 W. Jackson, Piggott 72454	598-2237
IM.	Futrell, J. B.	414 W. 2nd, Rector 72461	595-3332
GP.	Harper, Bland R.	P. O. Box C, Monette 72447	486-2131
OR.	Hazzard, Marion P.	#1 Medical Dr., Paragould 72450	239-4011
GS.	Lawson, J. Larry.	P. O. Box 6, Paragould 72450	239-4011
ANES.	Martin, Richard O.	P. O. Box 339, Paragould 72450	236-7733
FP.	Muse, Jerry L.	425 W. Jackson, Piggott 72454	598-2237
P.	McGaughey, Solon	901 W. Kingshighway, Paragould 72450	236-8765
FP.	McKelvey, Earle D.	409 S. 5th, Paragould 72450	236-8716
FP.	Page, Bill C.	#1 Medical Dr., Paragould 72450	239-4011
R.	Purcell, Donald I.	P. O. Box 339, Paragould 72450	239-8431
PATH.	Richmond, Jack G.	P. O. Box 339, Paragould 72450	236-7733
FP.	Shedd, Leonus L.	1015 W. Kingshighway, Paragould 72450	239-4076
FP.	Watson, Sam D.	411 S. 7th, Paragould 72450	236-8591
FP.	Williams, Jacob M.	1015 W. Kingshighway, Paragould 72450	239-4076

HEMPSTEAD COUNTY

FP.	Branch, James W.	426 S. Main, Hope 71801	777-4636
FP.	Harris, C. Lynn	P. O. Box 550, Hope 71801	777-2131
FP.	Harris, Lowell O.	P. O. Box 550, Hope 71801	777-2131
FP.	Holt, Forney G.	1700 W. 13th, Little Rock 72201	227-3260
GS.	Martindale, James G.	116 S. Main, Hope 71801	777-3464
GS.	Martindale, Jud B.	116 S. Main, Hope 71801	777-3464
FP.	McKenzie, Jim.	P. O. Box 10, Hope 71801	777-2321
FP.	Wright, George H.	202 S. Pine St., Hope 71801	777-6722

HOT SPRING COUNTY

FP.	Brashears, Larry B.	1234 S. Main, Malvern 72104	332-5245
FP.	Cobb, Russell W.	1420 Potts, Malvern 72104	332-3112
FP.	Cole, John W.	725 E. Page Ave., Malvern 72104	332-5641
FP.	Durmon, Beuford T.	1004 Dyer, Malvern 72104	332-3664
FP.	Ellis, C. Randolph.	1004 S. Main, Malvern 72104	332-6941
FP.	Kersh, Noah B.	1518 McBee, Malvern 72104	337-7533
FP.	Lindsey, James A.	1004 Dyer, Malvern 72104	332-3664
GP.	McCray, Raymond V.	214 E. Highland, Malvern 72104	332-2704

Type of Practice	Member's Name	Address	Telephone Number
FP	Peters, Claude F.	1420 Potts, Malvern 72104	332-2521
FP	Vaughan, John A.	115 E. Highland, Malvern 72104	332-2371
FP	White, Robert H.	1004 Dyer, Malvern 72104	332-3664
FP	Wise, John D.	1219 S. Main, Malvern 72104	332-6961
HOWARD-PIKE COUNTY			
FP	Dildy, Edwin V.	P. O. Box 549, Nashville 71852	845-1933
	*Holt, Horace H.	Nashville	
FP	Jones, William J.	P. O. Box 49, Glenwood 71943	356-3921
FP	King, Joe D.	P. O. Box 549, Nashville 71852	845-1933
FP	Peebles, Samuel W.	120 W. Sybert, Nashville 71852	845-4676
FP	Smith, U. Lee	P. O. Box 807, Nashville 71852	845-3880
FP	Sykes, Robert R.	P. O. Box 549, Nashville 71852	845-1933
FP	Turbeville, James O.	1124 N. Washington, Murfreesboro 71958	285-3341
FP	Ward, Hiram T.	510 N. Washington, Murfreesboro 71958	285-2491
R	Webb, Kathleen E.	2701 Pine, Texarkana 75501	792-9353
FP	Wesson, John H.	120 W. Sybert, Nashville 71852	845-4676
FP	White, Phillip L.	P. O. Box 319, Murfreesboro 71958	285-2491
FP	Wilmoth, Marion H.	P. O. Box 804, Nashville 71852	845-4780
INDEPENDENCE COUNTY			
FP	Beck, Carl T.	P. O. Drawer J, Mountain View 72560	269-3834
FP	Calaway, William H.	181 S. Broad, Batesville 72501	793-5251
FP	Gray, Paul	P. O. Box 82, Batesville 72501	793-2321
RD	Hathcock, Alfred H.	P. O. Box 3000, Batesville 72501	793-5767
NP	James, Frank M.	2920 McClellan, Jonesboro 72401	972-4039
OPH	Jones, Edward T.	180 N. 5th, Batesville 72501	793-5257
GS	Ketz, Wesley J.	P. O. Box 2695, Batesville 72501	793-2371
FP	Lytle, Jim E.	181 S. Broad, Batesville 72501	793-5251
GS	Monroe, Howard U.	Monroe Clinic, Mountain View 72560	269-3236
FP	Moody, Lackey G.	P. O. Box 2335, Batesville 72501	793-2371
FP	Raney, Troy	P. O. Box 83, Cave City 72521	283-5762
FP	Slaughter, Bob L.	P. O. Box 2416, Batesville 72501	793-2540
FP	Smith, Bob G.	181 S. Broad, Batesville 72501	793-5251
GS	Stalker, James M.	P. O. Box 2575, Batesville 72501	793-5205
FP	Tatum, Harold M.	P. O. Box 147, Melbourne 72556	368-4344
FP	Taylor, Chaney W.	181 S. Broad, Batesville 72501	793-5251
FP	Taylor, Charles A.	181 S. Broad, Batesville 72501	793-5251
FP	Walker, A. T.	P. O. Box 135, Thayer, Missouri 65791	417-264-7121
FP	Wyatt, F. Q.	181 S. Broad, Batesville 72501	793-5251
R	Young, Jack S., III	609 Second St., Newport 72112	523-6777
JACKSON COUNTY			
IM	Ashley, John D.	2nd and Laurel, Newport 72112	523-6721
GS	Carney, J. W.	1205 McLain, Newport 72112	523-8911
IM	Dudley, Guilford M.	1205 McLain, Newport 72112	523-8911
PD	Dunlap, Warner B.	1205 McLain, Newport 72112	523-8911
GS	Frankum, Jerry M., Jr.	2nd and Laurel, Newport 72112	523-6721
FP	Green, Roger L.	2nd and Laurel, Newport 72112	523-6721
GS	Harris, Haymond	1205 McLain, Newport 72112	523-8911
RD	Jackson, Jabez F.	304 Ash St., Newport 72112 (Res.)	523-8314
OBG	Jackson, Jabez F., Jr.	1205 McLain, Newport 72112	523-8911
RD	Norris, R. O.	P. O. Box 626, Tuckerman 72473	349-5527
FP	Price, Robert E.	1205 McLain, Newport 72112	523-8911
OPH	Stanfield, Wayne	1513 Malcolm, Newport 72112	523-3321
RD	Williams, Thomas E.	10 Park Place, Newport 72112 (Res.)	523-6121
FP	Wright, John C.	1205 McLain, Newport 72112	523-8911
JEFFERSON COUNTY			
R	Anderson, Charles W.	P. O. Box 7863, Pine Bluff 71601	534-8651
FP	Atnip, Gwyn	1111 West 15th, Pine Bluff 71601	535-3551
FP	Bell, Carl H., Jr.	1602 W. 42nd, Pine Bluff 71601	535-4850
OR	Blackwell, Banks	1400 W. 43rd, Pine Bluff 71601	534-3122
OBG	Bracy, Calvin M.	1704 W. 42nd, Pine Bluff 71601	536-7550
U	Brooks, R. Teryl, Jr.	1604 W. 42nd, Pine Bluff 71601	536-7758
PD	Bruce, Lloyene	1606 W. 42nd, Pine Bluff 71601	534-2232
FP	Bryant, R. Frank	1112 Linden, Pine Bluff 71601	534-4352
OTO	Buckley, John W.	1612 W. 42nd, Pine Bluff 71601	535-5719
P	Burford, Thomas G.	Benton Services Center, Benton 72015	778-1111
GE	Butler, Robert C.	1624 W. 42nd, Pine Bluff 71601	536-7660
FP	Cheek, Ben H.	1515 W. 42nd, Pine Bluff 71601	535-2890
PATH	Clark, James F., Jr.	1515 W. 42nd, Pine Bluff 71601	535-6800
FP	Coker, Leon R.	1710 W. 42nd, Pine Bluff 71601	535-4640
OBG	Coker, S. Dale	1720 Doctors Dr., Pine Bluff 71601	536-4986
RD	Crane, Henry A., Jr.	P. O. Box 11, Fountain Hill 71642	853-5352
IM	Crenshaw, John	1421 Cherry, Pine Bluff 71601	535-2200
CD	Crow, R. Lewis	600 Medical Towers Building, Little Rock 72205	227-9434
FP	Cunningham, Thomas J.	300 W. 6th, Pine Bluff 71601	534-4723
D	Davis, Charles M.	1708 W. 42nd, Pine Bluff 71601	535-7477
P	Dean, Lee A.	2500 Rike Dr., Pine Bluff 71601	534-1834
GS	Dickins, Robert D.	1003 Cherry, Pine Bluff 71601	534-8141
R	Fendley, Claude E.	P. O. Box 7863, Pine Bluff 71601	534-8651
OPH	Glasscock, Robert E.	1706 Doctors Dr., Pine Bluff 71601	534-4357
PD	Green, Horace L.	1420 W. 43rd, Pine Bluff 71601	534-6210
PD	Hart, J. Clyde, Jr.	1420 W. 43rd, Pine Bluff 71601	534-6210
OBG	Hayden, Virgil L.	1706 W. 42nd, Pine Bluff 71601	535-8180
R	Hegwood, Henri M.	P. O. Box 7863, Pine Bluff 71601	534-8651
PD	Henderson, Francis M.	1515 W. 42nd, Pine Bluff 71601	535-2890
IM	Hoover, S. H.	1610 W. 42nd, Pine Bluff 71601	536-7300
OPH	Hughes, L. Milton	1702 W. 42nd, Pine Bluff 71601	536-7738
U	Hutchison, Ernest L.	1724 W. 42nd, Pine Bluff 71601	535-1562
OBG	Hyman, Carl E.	121 E. 4th, Pine Bluff 71601	534-3365
GS	Irwin, Raymond A., Jr.	1421 Cherry, Pine Bluff 71601	535-2200
P	James, William Joe	2500 Rike Dr., Pine Bluff 71601	534-1834
CD	Jenkins, Bobby J.	1515 W. 42nd, Pine Bluff 71601	536-3015
ANES	Jenkins, Mary Ellen	1410 W. 42nd, Pine Bluff 71601	535-5522
R	Joseph, Aubrey S.	P. O. Box 7863, Pine Bluff 71601	534-8650
GS	King, G. Errol	817 Cherry, Pine Bluff 71601	535-1880
OPH	King, Yum Y.	1800 S. Hazel, Pine Bluff 71601	536-1897
OTO	Langston, Lloyd G.	1612 W. 42nd, Pine Bluff 71601	535-5719
ANES	Malik, Rustam A.	1410 W. 42nd, Pine Bluff 71601	535-5522
FP	Maynard, Ross E.	303 National Building, Pine Bluff 71601	534-5732

Type of Practice	Member's Name	Address	Telephone Number
GS	Meredith, William R.	1716 W. 42nd, Pine Bluff 71601	535-8727
IM	Miller, Donald L.	1515 W. 42nd, Pine Bluff 71601	535-6800
R	Milligan, Monte C.	P. O. Box 7863, Pine Bluff 71601	534-8651
IM	Monroe, Sanford C.	1421 Cherry, Pine Bluff 71601	535-2200
FP	Morris, Harold J.	1030 Poplar, Pine Bluff 71601	534-0822
R	McDonald, Robert L.	P. O. Box 7863, Pine Bluff 71601	534-8651
OPH	Nixon, William R.	709 W. 6th, Pine Bluff 71601	534-2624
IM	Nuckolls, John W.	1421 Cherry, Pine Bluff 71601	535-2200
RD	Payne, Virgil L.	802 W. 5th, Pine Bluff 71601 (Res.)	534-5618
FP	Perry, V. Bryan	1722 W. 42nd, Pine Bluff 71601	535-4141
OBG	Pierce, J. R., Jr.	1712 W. 42nd, Pine Bluff 71601	535-3443
FP	Raney, Oliver C.	1720 W. 42nd, Pine Bluff 71601	534-5861
OR	Reed, E. Frank	916 Cherry, Pine Bluff 71601	535-0121
	*Reed, Ulysses S.	Pine Bluff	
PD	Rhyne, James T.	1420 W. 43rd, Pine Bluff 71601	534-6210
R	Riggs, Orval E.	P. O. Box 7863, Pine Bluff 71601	535-6800
GS	Rittlemeyer, C. M.	1716 W. 42nd, Pine Bluff 71601	535-8727
GS	Roberson, George V.	1708 Doctors Drive, Pine Bluff 71601	535-2716
FP	Robinette, Joseph S.	1722 Doctors Drive, Pine Bluff 71601	535-2372
RD	Russell, Allen R.	12 Southern Pines Dr., Pine Bluff 71601 (Res.)	534-6481
OBG	Simmons, Calvin R.	1714 W. 42nd, Pine Bluff 71601	535-3213
GS	Smith, Robert J.	817 Cherry, Pine Bluff 71601	535-1880
GS	Stern, Howard S.	1315 Linden, Pine Bluff 71601	534-0342
GS	Sullenberger, A. G.	1726 W. 42nd, Pine Bluff 71601	534-4407
IM	Talbot, George B.	1421 Cherry, Pine Bluff 71601	535-2200
PATH	Tisdale, Alfred D., Jr.	1515 W. 42nd, Pine Bluff 71601	535-6800
PD	Townsend, Thomas E.	1420 W. 43rd, Pine Bluff 71601	534-6210
IM	Tracy, C. Clyde	1421 Cherry, Pine Bluff 71601	535-2200
GS	Wilkins, Walter J., Jr.	1421 Cherry, Pine Bluff 71601	535-2200
IM	Wineland, Herbert L.	1710 Doctors Dr., Pine Bluff 71601	534-3561
	Wooley, Ralph R.	Chattanooga, Tennessee	
A	Worrell, Aubrey M., Jr.	1600 W. 42nd, Pine Bluff 71601	535-6800

JOHNSON COUNTY

FP	Green, Terry G.	P. O. Box 668, Clarksville 72830	754-8384
FP	Patterson, Jack T.	P. O. Box 668, Clarksville 72830	754-8384
FP	Pennington, Donald H.	P. O. Box 668, Clarksville 72830	754-8384
FP	Shrigley, Guy P.	P. O. Box 70, Clarksville 72830	754-2043
GP	West, Boyce W.	P. O. Box 668, Clarksville 72830	754-8384

LAFAYETTE COUNTY

FP	Ditsch, Craig E.	214 Main, Stamps 71860	533-4461
FP	Lee, Willie J.	P. O. Box 276, Stamps 71860	533-4461
FP	Patton, Robert C.	P. O. Box G, Lewisville 71845 (Res.)	921-5422
GS	Strange, Vance M.	P. O. Box 67, Stamps 71860	533-4478

LAWRENCE COUNTY

FP	Cruse, Edward J.	P. O. Box 116, Black Rock 72415	878-6209
RD	Dickey, A. B.	704 N.W. 3rd, Walnut Ridge 72476 (Res.)	886-5377
FP	Elders, John B.	321 S.W. 3rd, Walnut Ridge 72476	886-3162
+	Hickman, James H.	4313 W. Markham, Little Rock 72205	664-4500
FP	Hughes, Joe E.	421 S.W. 3rd, Walnut Ridge 72476	886-3543
FP	Joseph, Ralph F.	Highway 25 West, Walnut Ridge 72476	886-3211
FP	Lancaster, Teddy S.	421 S.W. 3rd, Walnut Ridge 72476	886-3543
FP	Spades, Sebastian A.	421 S.W. 3rd, Walnut Ridge 72476	886-3252

LEE COUNTY

FP	Fields, E. C.	77 W. Main, Marianna 72360	295-5244
FP	Gray, Dwight W.	110 W. Chestnut, Marianna 72360	295-3131
FP	McLendon, Mac	P. O. Box 794, Marianna 72360	295-2711

LINCOLN COUNTY

FP	Freeland, James W.	P. O. Box 159, Star City 71667	628-4226
FP	Petty, Richard C.	P. O. Box 580, Star City 71667	628-4292

LITTLE RIVER COUNTY

FP	Armstrong, James D.	P. O. Box 397, Ashdown 71822	898-3306
FP	Peacock, Norman W.	P. O. Box 667, Ashdown 71822	898-3306
FP	Pullig, Thomas A.	Ashdown Clinic, Ashdown 71822	898-3306
FP	Shelton, Joe G., Jr.	P. O. Box 697, Ashdown 71822	898-3306

LOGAN COUNTY

	Blackwell, Leonard	Ames, Iowa	
FP	Chalfant, Charles H.	114 W. 4th, Booneville 72927	675-2455
FP	Daniel, William R.	114 W. 4th, Booneville 72927	675-2455
FP	Smith, Charles M.	P. O. Box 286, Paris 72355	963-2191
FP	Smith, James T.	P. O. Box 286, Paris 72355	963-2191

LONOKE COUNTY

FP	Camp, Arthur W.	P. O. Box 547, Hazen 72064	255-3321
FP	Gartman, Joseph F.	100 Court St., Carlisle 72024	552-7561
FP	Harris, Willie R.	P. O. Box 40, England 72046	842-2551
FP	Holmes, B. E.	305 W. Front, Lonoke 72086	676-6560
FP	Inman, Fred C., Jr.	521 N. Williams, Carlisle 72024	552-7575
FP	Morrison, Doyle H.	P. O. Box 993, Cabot 72023	843-3549
CD	Schumann, Gerald M.	P. O. Drawer I, Des Arc 72040	256-4312
FP	Washburn, C. Yulan	P. O. Box H, Cabot 72023	843-3579

MILLER COUNTY

R	Andrews, A. E.	P. O. Box 689, Texarkana 75501	794-3732
GS	Bransford, Robert M.	P. O. Box 778, Texarkana 75501	774-3211
PD	Burnett, James W.	414 Hazel, Texarkana 75501	774-7301
PD	Burroughs, James C.	300 E. 6th, Texarkana 75501	774-3211
PATH	Chappell, Robert H.	P. O. Box 1288, Texarkana 75501	214-794-8311
PD	Cowan, Noel W.	300 E. 6th, Texarkana 75501	774-3211
FP	Daniel, Noble B., III	317 State Line, Texarkana 75501	792-8231
GS	Duncan, Donald L.	P. O. Box 778, Texarkana 75501	774-3211
IM	Goesl, Andrew G.	803 Pine St., Texarkana 75501	214-792-6946
PD	Hall, Jon D.	300 E. 6th, Texarkana 75501	774-3211

Type of Practice	Member's Name	Address	Telephone Number
GS	Harrell, William B., Jr.	317 State Line, Texarkana 75501	214-792-8231
OBG	Harrison, Jack W.	P. O. Box 778, Texarkana 75501	774-3211
OR	Hughes, Mary W.	1001 Main, Texarkana 75501	214-792-6976
OR	Hughes, Robert P.	300 E. 6th, Texarkana 75501	774-3211
FP	Jamison, Garland U.	610 Hazel, Texarkana 75501	774-4912
GYN	Jones, John W.	300 E. 6th, Texarkana 75501	774-3211
GE	Kemp, Karlton H.	408 Hazel, Texarkana 75501	774-5181
	*Kirkpatrick, Robert R.	Texarkana	
FP	Kittrell, James B.	1001 Main, Texarkana 75501	214-794-6107
ANES	Laws, John K.	P. O. Box 1140, Texarkana 75501	774-7297
PD	Lowe, Betty A.	804 Wolfe, Little Rock 72201	376-4621
PATH	Moser, Karl Dan	315 E. 5th, Texarkana 75501	774-2121
R	McGinnis, Robert S., Sr.	P. O. Box 1409, Texarkana 75501	214-792-7151
OPH	Newton, Norris L.	P. O. Box 2830, Texarkana 75501	214-792-8541
IM	Rodgers, Nathaniel L.	300 E. 6th, Texarkana 75501	774-3211
R	Royal, Jack L.	300 E. 6th, Texarkana 75501	774-3211
	*Rushing, Louis U.	Texarkana	
FP	Short, Harold H.	1400 College Dr., Texarkana 75501	214-793-5671
TS	Smith, Arnett D., Jr.	P. O. Box 1409, Texarkana 75501	792-7151
RD	Smith, W. Decker	2300 Laurel, Texarkana 75501 (Res.)	773-3503
FP	Stringfellow, Jerry B.	1205 E. 35th, Texarkana 75501	773-6745
U	Teasley, Gerald H.	300 E. 6th, Texarkana 75501	774-3211
PATH	Wicker, Eugene H.	P. O. Box 1140, Texarkana 75501	774-2121
	Wilhelm, Frieda	Dallas, Texas	
TS	Wren, Herbert B.	4800 Texas Blvd., Texarkana 75501	214-792-7151
U	Yarbrough, Charles P.	1102 Main, Texarkana 75501	214-793-5608
GS	Young, Mitchell	1406 College Dr., Texarkana 75501	214-792-8264

MISSISSIPPI COUNTY

PH	Beasley, Joseph E.	N. 10th, Blytheville 72315	763-7064
IM	Brock, Charles C., Jr.	527 N. 6th, Blytheville 72315	763-8118
U	Campbell, Charles E., Jr.	501 Hutson, Blytheville 72315	763-0855
FP	Cole, C. R.	519 N. 6th, Blytheville 72315	763-1554
FP	Cullom, Sumner R.	608 W. Lee, Osceola 72370	563-2608
GS	Elliott, John Q.	209 W. Ash, Blytheville 72315	763-4548
FP	Fairley, Eldon	P. O. Box 68, Osceola 72370	563-6568
FP	Fairley, Julian R.	P. O. Box 68, Osceola 72370	563-6568
R	Gratz, John F., Jr.	Osceola Memorial Hospital, Osceola 72370	563-2611
FP	Green, W. O., Jr.	P. O. Box 268, Blytheville 72315	763-6802
PATH	Hart, Sybil R.	10th and Highland, Blytheville 72315	763-5111
R	Hart, Wade A.	10th and Highland, Blytheville 72315	763-5111
FP	Holcomb, C. E.	511 N. 6th, Blytheville 72315	763-3922
FP	Hubener, Lemly L.	509 Hutson, Blytheville 72315	762-2021
	Hubener, Louis F.	Gainesville, Florida	
IM	Jones, Herbert	P. O. Box 321, Blytheville 72315	763-8032
IM	Massey, L. D.	P. O. Box 388, Osceola 72370	563-6242
FP	Osborne, Merrill J.	527 N. 6th, Blytheville 72315	763-8118
FP	Pollock, George D.	608 W. Lee, Osceola 72370	563-2608
FP	Rhodes, R. F.	608 W. Lee, Osceola 72370	563-2608
FP	Rodman, Tasker N.	P. O. Box 260, Leachville 72438	539-6337
FP	Shaneyfelt, E. A.	P. O. Box 630, Manila 72442	561-4421
GS	Sims, Hunter C., Jr.	525 N. 10th, Blytheville 72315	763-0521
FP	Russell, James D.	527 N. 6th, Blytheville 72315	763-8118
FP	Smith, Ronald D.	620 W. Walnut, Blytheville 72315	763-4541
FP	Utley, F. E.	515 N. 6th, Blytheville 72315	763-4575
OPH	Webb, J. J.	520 W. Main, Blytheville 72315	762-2131
OBG	Workman, W. W.	527 N. 6th, Blytheville 72315	763-8118

MONROE COUNTY

FP	Dalton, Marvin L.	P. O. Box 763, Brinkley 72021	734-4161
FP	David, N. C., Jr.	108 W. Ash, Brinkley 72021	734-2212
FP	Olaimey, A. N.	200 W. Cedar, Brinkley 72021	734-4137
FP	Pupsta, Benedict F.	P. O. Box 432, Clarendon 72029	747-3321
FP	Stone, Herd E.	P. O. Box A, Holly Grove 72069	462-3393
FP	Walker, Walter L.	114 S. New Orleans, Brinkley 72021	734-3242
FP	Williams, J. P., Jr.	127 S. New Orleans, Brinkley 72021	734-1331

NEVADA COUNTY

FP	Avery, Charles D.	427 E. 6th, Prescott 71857	887-2625
FP	Crow, H. Blake	327 E. 2nd, Prescott 71857	887-3846
FP	Hairston, G. G.	P. O. Box 675, Prescott 71857	887-2211
FP	Harrell, L. J.	117 E. 2nd, Prescott 71857	887-2312

OUACHITA COUNTY

IM	Dedman, J. L.	415 Hospital Dr., S.W., Camden 71701	836-5013
FP	Drewrey, L. E.	430 Magnolia, Camden 71701	836-6811
ANES	Ellis, Joseph L.	P. O. Box 126, Camden 71701	836-7144
GS	Fohn, Charles H.	415 Hospital Dr., S.W., Camden 71701	836-5013
FP	Guthrie, James	353 Cash Rd., Camden 71701	836-5794
FP	Hout, Judson N.	353 Cash Rd., Camden 71701	836-8101
GS	Jameson, J. B.	P. O. Box 994, Camden 71701	836-5088
FP	Kendall, J. R.	353 Cash Rd., Camden 71701	836-8101
FP	Killough, Larry R.	607 W. Arch, Searcy 72143	268-7143
FP	Livingston, Bill B.	416 Hospital Dr., Camden 71701	836-7367
RD	Miller, John H.	816 Clifton, N.W., Camden 71701 (Res.)	836-2549
IM	Ozment, Lowell V.	353 Cash Rd., Camden 71701	836-8101
FP	Sanders, Cal R.	353 Cash Rd., Camden 71701	836-8101
R	Thorne, A. E., Jr.	P. O. Box 797, Camden 71701	836-9321

PHILLIPS COUNTY

FP	Barrow, John H.	614 Oakland Ave., Helena 72342	338-8622
FP	Bell, L. J. Patrick	626 Poplar, Helena 72342	338-8163
OPH-OTO	Berger, Alfred A.	801 Perry, Helena 72342	338-8781
R	Biggs, William W.	Helena Hospital, Helena 72342	338-6411
RD	Butts, James W.	708 McDonough, Helena 72342 (Res.)	338-8006
FP	Capes, Bernard	P. O. Box 2398, West Helena 72390	572-2621
FP	Chrestman, Reuben L., Jr.	631 Oakland Ave., Helena 72342	338-3294
GP	Ellis, William A.	603 Porter, Helena 72342	338-3037
GP	Faulkner, H. N.	513 Porter, Helena 72342	338-7401
FP	Hill, William K.	P. O. Box 277, Elaine 72333	827-3461
FP	Kirkman, C. M. T.	1105 Perry, Helena 72342	338-8712

Type of Practice	Member's Name	Address	Telephone Number
FP	Miller, Robert D.	616 Elm St., Helena 72342	338-8531
GP	McCarthy, C. P.	513 Porter, Helena 72342	338-7401
GP	McDaniel, M. A.	513 Porter, Helena 72342	338-7401
FP	Oldham, H. B.	P. O. Box 2638, West Helena 72390	572-7581
FP	Paine, W. T.	671 Oakland Ave., Helena 72342	572-6413
FP	Tonymon, Daniel	P. O. Box 278, Marvell 72366	829-2721
FP	Wise, James E., Jr.	P. O. Box 66, Marvell 72366	829-2386
POLK COUNTY			
FP	Austin, Calvin D.	1210 DeQueen, Mena 71953	394-1441
FP	Hefner, David P.	518 Janssen St., Mena 71953	394-3550
PD	Murphy, G. Doty, III	1210 DeQueen, Mena 71953	394-1441
FP	Redman, Pierre P.	513 Mena, Mena 71953	394-2277
FP	Rogers, Henry N.	600 W. 7th, Mena 71953	394-3344
FP	Stephens, Maurice L.	1210 DeQueen, Mena 71953	394-1441
GS	Wood, John P.	907 Mena, Mena 71953	394-4221
POPE COUNTY			
FP	Ashcraft, Ted E.	2524 W. Main, Russellville 72801	968-7170
GS	Bachman, David S.	3005 W. Main Place, Russellville 72801	968-2345
P	Bell, Linda O.	2301 W. Main, Russellville 72801	968-3323
U	Bell, Robert A.	2301 W. Main, Russellville 72801	968-3323
ANES	Birum, Patricia J.	P. O. Box 785, Russellville 72801	968-5670
R	Burgess, James G.	105 E. 11th, Russellville 72801	968-7930
FP	Carter, James M.	3005 W. Main Place, Russellville 72801	968-2345
GS	Crumpler, Joe B.	3005 W. Main Place, Russellville 72801	968-2345
OPH	*Franklin, Robert M.	Russellville	
OPH	Gardner, Ellis	P. O. Box 400, Russellville 72801	968-2242
FP	Gaylas, Frank E.	310 N. 2nd, Dardanelle 72834	229-4225
RD	Heidgen, Martin F.	118 Cambridge Place, Little Rock 72207 (Res.)	227-5107
FP	Henry, John A.	3005 W. Main Place, Russellville 72801	968-2345
OR	Honghiran, Ted	P. O. Box 1025, Russellville 72801	968-3200
GS	Kimball, G. Howard	1919 W. Main, Russellville 72801	968-3611
R	King, John W.	105 E. 11th, Russellville 72801	968-7930
FP	King, W. Ernest, Jr.	3005 W. Main Place, Russellville 72801	968-2345
OR	Kolb, James M., Jr.	Route 3, Box 12-A, Russellville 72801	968-2124
FP	Lane, W. H., Jr.	625 Water St., Dover 72837	331-2828
OPH	Lovell, Richard K., Sr.	P. O. Box 790, Russellville 72801	968-7302
FP	Lowrey, Douglas H.	809 W. Main, Russellville 72801	968-2156
OPH	Lyford, Joe H., Jr.	P. O. Box 400, Russellville 72801	968-2242
FP	Malone, George E.	P. O. Box 187, Atkins 72823	641-2992
FP	Martin, Damon G. H.	P. O. Box 328, Ola 72853	489-5801
FP	Mauch, E. Jane	3005 W. Main Place, Russellville 72801	968-2345
RD	Millard, Roy L.	1704 W. 3rd Court, Russellville 72801 (Res.)	968-2604
EENT	Mobley, Max J.	P. O. Box 400, Russellville 72801	968-2242
RD	McNamara, William L.	2121 Towson, Fort Smith 72901 (Res.)	785-1441
FP	New, Kenneth O.	3005 W. Main Place, Russellville 72801	968-2345
PATH	Stolz, Gerald A.	500 S. Detroit, Russellville 72801	968-6781
FP	Teeter, Stanley D.	3005 W. Main Place, Russellville 72801	968-2345
IM	Wilkins, Charles F., Jr.	3005 W. Main Place, Russellville 72801	968-2345
FP	Williams, David M.	809 W. Main, Russellville 72801	968-2156
OBG	Williams, William M., Jr.	3005 W. Main Place, Russellville 72801	968-2345
FP	Young, Sandra S.	2524 W. Main, Russellville 72801	968-7170
PULASKI COUNTY			
ANES	Abbott, William W.	St. Vincent Infirmary, Little Rock 72201	661-3578
IM	Abraham, James H.	10601 Lile Dr., Little Rock 72205	227-8000
+	Abrams, Joe A.	4301 W. Markham, Little Rock 72201	225-3250
NS	Adamez, John H.	750 Medical Towers Bldg., Little Rock 72205	225-0880
IM	Adamson, James S.	10001 Lile Dr., Little Rock 72205	227-8000
OPH	Alford, T. Dale	5700 W. Markham, Little Rock 72205	664-5100
OBG	Allen, Durwood B.	500 S. University, Little Rock 72205	664-4131
OBG	Allen, E. Stewert	1100 N. University, Little Rock 72207	664-9191
TS	Allen, John E., Jr.	1050 Medical Towers Bldg., Little Rock 72205	227-8300
PS	Allen, Thomas H. "Bill"	113 N. University, Little Rock 72205	664-0900
FP	Anderson, Leslie F.	2 Crestview Plaza, Jacksonville 72076	982-4551
OM	Armstrong, Howard M.	340 Doctors Park Bldg., Little Rock 72205	227-7888
PATH	Atkinson, William E.	St. Vincent Infirmary, Little Rock 72201	661-3371
RD	Ault, Charles C.	1810 W. Long 17th, North Little Rock 72114 (Res.)	374-0748
PD	Austin, L. K., Jr.	500 S. University, Little Rock 72205	664-4044
RD	Autry, Daniel H.	1900 N. Tyler, Little Rock 72207 (Res.)	664-2332
GS	Baber, John C., Jr.	500 S. University, Little Rock 72205	664-2434
P	Backus, Joe T.	12115 Hinson Rd., Little Rock 72207	227-0680
OTO	Bailey, H. A. Ted, Jr.	1200 Medical Towers Bldg., Little Rock 72205	227-5050
FP	Baker, Charles R.	300 E. Roosevelt, Little Rock 72206	372-8361
PATH	Baker, Glen F.	P. O. Box 5507, Little Rock 72205	666-9478
U	Baker, Johnson J.	500 S. University, Little Rock 72205	664-4365
IM	Baldrige, John A.	350 Medical Towers Bldg., Little Rock 72205	227-5388
PD	Baldwin, Deane G.	500 S. University, Little Rock 72205	664-4044
FP	Ballard, Clarence E., Jr.	330 Doctors Park Bldg., Little Rock 72205	227-6363
OBG	Barclay, David L.	4301 W. Markham, Little Rock 72201	664-5000
R	Barnhard, Howard J.	4301 W. Markham, Little Rock 72201	664-5000
FP	Barron, Edwin N., Jr.	7915 Cantrell Rd., Little Rock 72207	225-9222
GS	Bauer, Frank M.	500 S. University, Little Rock 72205	664-2245
I	Baxley, Paul J.	4301 W. Markham, Little Rock 72201	664-5000
R	Bearden, James R.	1100 Medical Towers Bldg., Little Rock 72205	227-2771
OPH	Becquet, Norbert J.	115 W. 6th, Little Rock 72201	375-4419
FP	Belknap, Melvin L.	1801 Maple, North Little Rock 72114	758-1002
NP	Bennett, Eaton W.	4313 W. Markham, Little Rock 72205	664-4500
GS	Berry, Fred B.	500 S. University, Little Rock 72205	664-9116
P	Betts, Charles S.	780 Medical Towers Bldg., Little Rock 72205	227-7240
GS	Bevans, David W., Jr.	406 Pershing, North Little Rock 72114	758-1620
ANES	Beverly, Nolan F.	St. Vincent Infirmary, Little Rock 72201	661-3578
D	Biondo, Raymond V.	P. O. Box 921, North Little Rock 72115	758-2588
CD	Bishop, William B.	10001 Lile Dr., Little Rock 72205	227-8000
U	Bissada, Nabil K.	4301 W. Markham, Little Rock 72201	664-5000
IM	Bissett, Joe K.	300 E. Roosevelt, Little Rock 72206	372-8361
FP	Bizzell, Ross	13 Robinwood, Little Rock 72207 (Res.)	225-3666
U	Black, Hal R., Jr.	200 Doctors Park Bldg., Little Rock 72205	225-9755
FP	Black, H. Thurston	123 N. Van Buren, Little Rock 72205	666-0142
FP	Black, Millard W.	705 N. Ash, Little Rock 72205	663-5413
RD	Blakely, Rupert M.	211 Crystal Court, Little Rock 72205 (Res.)	663-2562
OR	Blankenship, William F.	405 N. University, Little Rock 72205	664-1500

Type of Practice	Member's Name	Address	Telephone Number
N	Boellner, Samuel W.	300 Medical Towers Bldg., Little Rock 72205	227-4750
CD	Boger, James E.	10001 Lile Dr., Little Rock 72205	227-8000
NS	Boop, Warren C., Jr.	4301 W. Markham, Little Rock 72201	664-5000
PD	Bost, Roger B.	4301 W. Markham, Little Rock 72201	664-5000
OR	Bowker, John H.	4301 W. Markham, Little Rock 72201	664-5000
IM	Boyd, Charles M.	4301 W. Markham, Little Rock 72201	664-5000
P	Boyle, Ronald H.	12115 Hinson Rd., Little Rock 72207	227-0680
U	Bradburn, Curry B., Jr.	200 Doctors Park Bldg., Little Rock 72205	225-9755
#	Braswell, Thomas R.	4301 W. Markham, Little Rock 72201	664-5000
R	Brenner, George H., Jr.	1100 Medical Towers Bldg., Little Rock 72205	227-5240
PD	Briggs, Barney P.	500 S. University, Little Rock 72205	664-4117
IM	Brinkley, Roy A.	100 Doctors Park Bldg., Little Rock 72205	227-6350
OTO	Brizzolara, A. J.	500 S. University, Little Rock 72205	664-4381
P	Broach, R. Fred	12115 Hinson Rd., Little Rock 72207	227-0680
RD	Brown, Martha M.	2014 Boulevard, Little Rock 72204 (Res.)	663-7697
U	Brown, T. Duell	1120 Marshall, Little Rock 72202	375-3376
GE	Browning, Donald G.	409 N. University, Little Rock 72205	664-6980
ADM	Bruce, Thomas A.	4301 W. Markham, Little Rock 72201	664-5000
GS	Buchanan, F. R.	500 S. University, Little Rock 72205	664-4324
PD	Buchanan, Gilbert A.	500 S. University, Little Rock 72205	664-4117
GS	Buchman, Joseph A.	500 S. University, Little Rock 72205	664-9116
IM	Bullock, Robert T.	4301 W. Markham, Little Rock 72201	664-5000
ANES	Bumpas, Joe H.	St. Vincent Infirmary, Little Rock 72201	661-3578
PATH	Burger, Robert A.	9600 W. 12th, Little Rock 72205	227-2888
NP	Busby, John V.	12115 Hinson Rd., Little Rock 72207	227-0680
ANES	Byrd, Lucas M., Jr.	36 Lakeshore Dr., Little Rock 72204	565-6046
OPH	Calcote, Robert A.	218 Donaghey Bldg., Little Rock 72201	374-5969
GS	Caldwell, Fred T., Jr.	4301 W. Markham, Little Rock 72201	664-5000
FP	Calhoon, Julian D.	P. O. Box 805, Jacksonville 72076	982-4551
R	Calhoun, Joseph D.	500 S. University, Little Rock 72205	664-3914
GS	Campbell, Gilbert S.	4301 W. Markham, Little Rock 72201	664-5000
R	Campbell, James W.	500 S. University, Little Rock 72205	664-3914
A	Caplinger, Kelsy J.	P. O. Box 5675, Little Rock 72205	227-5210
NP	Carnahan, Robert G.	4313 W. Markham, Little Rock 72205	664-4500
FP	Carson, Layne E.	300 E. Roosevelt, Little Rock 72206	372-8361
RD	Cazort, Alan G.	5117 Edgewood, Little Rock 72207 (Res.)	663-3623
OR	Chakales, Harold H.	405 N. University, Little Rock 72205	664-1500
OPH	Chandler, Billy M.	406 Pershing, North Little Rock 72114	758-1651
RD	Chappell, Ewin S.	400 N. University, Little Rock 72205	663-4747
FP	Cheairs, David B.	330 Doctors Park Bldg., Little Rock 72205	227-6363
RD	Choate, Hoyt	1100 Kavanaugh, Little Rock 72205 (Res.)	663-4362
U	Christeson, William W.	300 E. Roosevelt, Little Rock 72206	372-8361
OR	Christian, John D.	1100 N. University, Little Rock 72207	664-7710
FP	Chudy, Amail	1801 Maple, North Little Rock 72114	758-1002
FP	Church, B. L.	321 Maple, North Little Rock 72114	374-7796
OBG	Church, Marion M.	410 Pershing, North Little Rock 72114	758-1022
ANES	Clark, Richard B.	4301 W. Markham, Little Rock 72201	664-5000
FP	Cobb, Jock S.	North Hills Family Clinic, Sherwood 72116	835-6800
R	Cockrill, Harry H., Jr.	500 S. University, Little Rock 72205	664-3914
EENT	Colclasure, Joe B.	1200 Medical Towers Bldg., Little Rock 72205	227-5050
OPH	Conroy, Norma H.	Rusk, Texas	
	Cook, Raymond C.	601 Scott, Little Rock 72201	375-8273
	*Cooper, James O.	Little Rock	
GS	Cooper, W. G.	500 S. University, Little Rock 72205	666-0149
OBG	Cornell, Paul J.	500 S. University, Little Rock 72205	664-2277
OS	Cornett, James K.	5326 W. Markham, Little Rock 72205	664-6603
OPH	Cosgrove, K. W., Jr.	516 Scott, Little Rock 72201	374-6338
CR	Craig, Marion S.	500 S. University, Little Rock 72205	666-0106
OBG	Crews, J. Travis	500 S. University, Little Rock 72205	664-8505
OPH	Cross, J. B.	500 S. University, Little Rock 72205	666-0126
IM	Cullen, Philip T.	500 S. University, Little Rock 72205	664-4171
R	*Cummins, Bryce	Little Rock	
GS	Dalrymple, Glenn V.	18 Athena Court, Little Rock 72207 (Res.)	225-5778
R	Dean, Gilbert O., Sr.	403 Donaghey Bldg., Little Rock 72201	375-5543
OPH	Deed, Eleanor P.	4301 W. Markham, Little Rock 72201	664-5090
FP	Deer, Philip J., Jr.	601 Scott, Little Rock 72201	375-8273
ADM	DeJanis, Aurelius R.	115 W. Broadway, North Little Rock 72114	372-2704
NS	Dennis, James L.	4301 W. Markham, Little Rock 72201	663-3482
PATH	Dickins, Robert D., Jr.	750 Medical Towers Bldg., Little Rock 72205	225-0880
IM	Dilday, Thomas F.	P. O. Box 5507, Little Rock 72205	666-9478
FP	Dildy, Hal R.	500 S. University, Little Rock 72205	664-8111
R	Dillard, Daniel C.	3500 S. University, Little Rock 72204	562-4838
R	Diner, Wilma C.	4301 W. Markham, Little Rock 72201	664-5000
PH	Dodd, Doynce, Jr.	1100 Medical Towers Bldg., Little Rock 72205	227-5240
P	Dodge, Eva F.	4815 W. Markham, Little Rock 72205	661-2242
GS	Douglas, Warren M.	12115 Hinson Rd., Little Rock 72207	227-0680
U	Downs, John W.	500 S. University, Little Rock 72205	666-5922
PD	Downs, Ralph A.	500 S. University, Little Rock 72205	664-1762
FP	Dungan, William T.	4301 W. Markham, Little Rock 72201	664-5000
PH	Durham, James W.	P. O. Box 805, Jacksonville 72076	982-4551
OR	Easley, Edgar J.	1815 W. Markham, Little Rock 72205	661-2123
FP	Easter, Rex M.	401 N. University, Little Rock 72205	664-0144
+	Ellis, Jeffrey W.	1000 Medical Towers Bldg., Little Rock 72205	227-8180
GP	Eubanks, Robert G.	4301 W. Markham, Little Rock 72201	664-5000
GP	Evans, Gilbert C.	4942 W. Markham, Little Rock 72205	664-4127
FP	Farmer, Joseph F.	9501 Rodney Parham, Little Rock 72207	225-2594
OTO	Farris, Guy R.	5213 Lee, Little Rock 72205	664-2115
FP	Fein, Norman N.	1310 Cantrell Rd., Little Rock 72201	374-8441
GS	Fewell, Ronald D.	P. O. Box 459, Jacksonville 72076	982-2141
R	Fielder, Charles R.	406 Pershing, North Little Rock 72114	758-1620
PD	Fincher, Robert L.	1100 Medical Towers Bldg., Little Rock 72205	227-5240
RD	Fiser, Robert H., Jr.	4301 W. Markham, Little Rock 72201	664-5922
FP	Fitzgibbon, Carney, Jr.	410 S. Martin, Little Rock 72205 (Res.)	666-8861
NS	Flack, James V.	424 N. University, Little Rock 72205	664-4810
NS	Flanigan, Stevenson	4301 W. Markham, Little Rock 72201	664-5000
NS	Flanigan, Herman F.	4301 W. Markham, Little Rock 72201	664-5000
P	Fletcher, Elizabeth D.	4313 W. Markham, Little Rock 72205	664-4500
NS	Fletcher, Thomas M.	500 S. University, Little Rock 72205	664-3021
OBG	Floyd, Bill G.	310 Doctors Park Bldg., Little Rock 72205	227-7555
FP	Fortson, Wayne E.	6924 Geyer Springs Rd., Little Rock 72209	562-1463
U	Foster, Julian L.	3500 S. University, Little Rock 72204	562-4838
OPH	Fraiser, L. P.	200 Doctors Park Bldg., Little Rock 72205	225-9755
D	Fraunfelder, F. T.	4301 W. Markham, Little Rock 72201	664-5000
OPH	Fulmer, H. Ray	1414 Donaghey Bldg., Little Rock 72201	374-1649
	Fulmer, John M.	5410 W. Markham, Little Rock 72205	664-3142

Type of Practice	Member's Name	Address	Telephone Number
FP	Fulton, William L.	513 Main, North Little Rock 72114.	375-2433
N	Galbraith, Robert C.	300 Medical Towers Bldg., Little Rock 72205.	227-4750
OTO	Gay, Ellery C., Jr.	1200 Medical Towers Bldg., Little Rock 72205.	227-5050
NS	Giles, Wilbur M.	750 Medical Towers Bldg., Little Rock 72205.	225-0880
GYN	Gillespie, A. Tharp	500 S. University, Little Rock 72205.	664-9555
PD	Glenn, Robert E.	516 Pershing, North Little Rock 72114.	758-1530
ANES	Glenn, Wayne B.	St. Vincent Infirmary, Little Rock 72201.	661-3578
IM	Glover, Lawson E.	10001 Lile Dr., Little Rock 72205.	227-8000
R	Glover, William C.	1100 Medical Towers Bldg., Little Rock 72205.	227-5240
P	Good, Henry H.	780 Medical Towers Bldg., Little Rock 72205.	227-7240
A	Gordon, Vida H.	9501 N. Rodney Parham Rd., Little Rock 72205.	227-8545
PD	Gosser, Bob L.	516 Pershing, North Little Rock 72114.	758-1530
GS	Graham, G. Grimsley.	990 Medical Towers Bldg., Little Rock 72205.	227-9080
IM	Graupner, Kathryn I.	VA Hospital, North Little Rock 72114.	372-8361
R	Gray, Edwin F.	1310 Cantrell Rd., Little Rock 72201.	375-5381
+	Greenway, C. Don.	4301 W. Markham, Little Rock 72201.	664-5000
IM	Greutter, John E.	1014 Donaghey 8ldg., Little Rock 72201.	372-6139
OR	Grimes, H. Austin.	P. O. Box 5270, Little Rock 72205.	666-9491
GS	Growdon, James H.	500 S. University, Little Rock 72205.	664-4146
+	Guinn, Donald R.	4301 W. Markham, Little Rock 72201.	664-5000
FP	Gustavus, John L.	3423 Pike, North Little Rock 72118.	753-3661
GYN	Hagler, James L.	500 S. University, Little Rock 72205.	664-5330
IM	Hall, Alastair D.	500 S. University, Little Rock 72205.	664-0027
OPH	Hankins, Edwin, III	500 S. University, Little Rock 72205.	666-0311
ANES	Harger, C. Harold.	1150 Medical Towers Bldg., Little Rock 72205.	227-7590
IM	Harper, Ernest H.	400 Pershing, North Little Rock 72114.	227-8000
P	Harrendorf, Cagle.	500 S. University, Little Rock 72205.	663-6346
R	Harris, Donald R.	4301 W. Markham, Little Rock 72201.	664-5000
IM	Harris, Michael N.	10001 Lile Dr., Little Rock 72205.	227-8000
P	Harris, T. Stuart.	12115 Hinson Rd., Little Rock 72207.	227-0680
R	Harris, William T.	500 S. University, Little Rock 72205.	664-3914
P	Harrison, A. Vale.	930 Medical Towers Bldg., Little Rock 72205.	225-7433
FP	Harrison, Roy E.	8824 Chicot Rd., Little Rock 72209.	562-8600
PATH	Harville, William E.	9600 W. 12th, Little Rock 72205.	227-2888
P	Hawley, Harold B.	500 S. University, Little Rock 72205.	664-9029
GS	Hayden, William F.	500 S. University, Little Rock 72205.	664-2434
PS	Hayes, Harry, Jr.	500 S. University, Little Rock 72205.	666-2811
R	Haynes, W. D.	500 S. University, Little Rock 72205.	664-3914
U	Headstream, James W.	500 S. University, Little Rock 72205.	664-4365
P	Hearnberger, Henry G., Jr.	4313 W. Markham, Little Rock 72205.	664-4500
+	Hearnberger, John E.	4301 W. Markham, Little Rock 72201.	664-5000
FP	Hedges, Harold H.	424 N. University, Little Rock 72205.	664-4810
A	Hefley, Bill F.	P. O. Box 5675, Little Rock 72205.	227-5210
NP	Henker, Fred O.	4301 W. Markham, Little Rock 72201.	664-5000
GYN	Henry, Charles R.	500 S. University, Little Rock 72205.	664-4191
OPH	Henry, Forrest, Jr.	516 Scott, Little Rock 72201.	374-6338
N	Henry, G. Morrison.	300 Medical Towers Bldg., Little Rock 72205.	227-4750
PD	Henry, Robert L.	500 S. University, Little Rock 72205.	664-4044
IM	Herron, Jerry M.	350 Medical Towers Bldg., Little Rock 72205.	227-5388
ANES	Hickey, Joseph P.	1150 Medical Towers Bldg., Little Rock 72205.	227-7590
FP	Hodges, William B.	1800 Maple, North Little Rock 72114.	758-1450
R	Holder, John C.	4301 W. Markham, Little Rock 72201.	664-5000
GS	Hollenberg, Henry G.	500 S. University, Little Rock 72205.	664-4747
P	Hollis, Nicholas T.	P. O. Box 4042, Little Rock 72204.	664-3926
FP	Holmes, Harlan C.	1160 Medical Towers Bldg., Little Rock 72205.	225-6123
GS	Holt, L. Gordon.	5326 W. Markham, Little Rock 72205.	666-9442
R	Holton, Jerry C.	500 S. University, Little Rock 72205.	664-3914
FP	Honeycutt, Thomas D.	4124 W. 11th, Little Rock 72204.	664-4389
D	Honeycutt, W. Mage.	500 S. University, Little Rock 72205.	664-4161
GS	Hoover, Paul W.	1120 Marshall, Little Rock 72202.	374-0789
PH	Hotchkiss, Robert L.	4313 W. Markham, Little Rock 72205.	661-2256
P	Howard, John G., Jr.	790 Medical Towers Bldg., Little Rock 72205.	227-6370
N	Howell, Coburn S., Jr.	300 Medical Towers Bldg., Little Rock 72205.	227-4750
OR	Hundley, John M.	412 Cross, Little Rock 72201.	375-5338
OR	Hutson, Harold G.	110 Doctors Park Bldg., Little Rock 72205.	227-4150
ADM	Jackson, George W.	4313 W. Markham, Little Rock 72205.	664-4500
FP	Jackson, M. A.	1304 Wright Ave., Little Rock 72206.	374-7940
D	Jansen, G. Thomas.	500 S. University, Little Rock 72205.	664-4161
PATH	Johnson, B. Richard.	9600 W. 12th, Little Rock 72205.	227-2888
IM	Johnson, Henry D.	500 S. University, Little Rock 72205.	664-4171
FP	Johnson, J. Albert.	P. O. Box 747, Jacksonville 72076.	982-4525
OR	Johnson, Phillip H.	P. O. Box 5270, Little Rock 72205.	664-7600
A	Johnston, Thomas G.	P. O. Drawer A, Hillcrest Station, Little Rock 72205.	664-3904
PD	Jones, Jerry G.	500 S. University, Little Rock 72205.	664-0804
OR	Jones, Kenneth G.	P. O. Box 5270, Little Rock 72205.	664-7600
GS	Jones, Robert D.	500 S. University, Little Rock 72205.	664-4747
D	Jones, William M.	500 S. University, Little Rock 72205.	664-0418
N	Jordan, William K.	P. O. Box 7545, Little Rock 72205.	663-8371
NS	Jouett, W. Ray.	750 Medical Towers Bldg., Little Rock 72205.	225-0880
R	Joyce, John W.	1100 Medical Towers Bldg., Little Rock 72205.	227-5240
RD	Junkin, Ruth H.	Route 3, Box 367-D, Little Rock 72205 (Res.)	821-3276
EM	Kagy, John K.	St. Vincent Infirmary, Little Rock 72201.	661-3868
IM	Kahn, Alfred, Jr.	1300 W. 6th, Little Rock 72201.	374-5588
PMR	Keeler, Keith C.	12th and Marshall, Little Rock 72201.	227-3532
D	Keeran, Michael G.	500 S. University, Little Rock 72205.	664-4161
FP	Kennedy, Charles H.	3115 JFK Boulevard, North Little Rock 72116.	753-9464
PD	Kennedy, H. Frazier.	500 S. University, Little Rock 72205.	664-4117
GS	Kilbury, Merlin J., Jr.	950 Medical Towers Bldg., Little Rock 72205.	227-6840
	*Kilbury, Merlin J., Sr.	Little Rock	
FP	Kirby, Jesse M.	6924 Baucum Pike, North Little Rock 72117 (Res.)	945-3055
PDA	Kittler, Fred J.	P. O. Box 5675, Little Rock 72205.	227-5210
CD	Kizziar, Jim C.	10001 Lile Dr., Little Rock 72205.	227-8000
P	Koehler, Thomas R.	4313 W. Markham, Little Rock 72205.	664-4500
ANES	Kolb, Agnes C.	1150 Medical Towers Bldg., Little Rock 72205.	227-7590
P	Kolb, W. Payton.	230 Medical Towers Bldg., Little Rock 72205.	225-0887
P	Kozberg, Oscar.	4313 W. Markham, Little Rock 72205.	664-4500
OBG	Kreth, Kay M.	417 N. University, Little Rock 72205.	663-9441
+	Krulin, Gregory S.	4301 W. Markham, Little Rock 72201.	664-5000
GS	Kumpuris, Frank G.	415 N. University, Little Rock 72205.	664-1521
OBG	Kwee, James T. Y.	310 Doctors Park Bldg., Little Rock 72205.	227-7555
OTO	Kyser, James F.	900 Medical Towers Bldg., Little Rock 72205.	227-8501
R	Lane, John W.	9600 W. 12th, Little Rock 72205.	227-2771
R	Langston, Harold D.	1100 Medical Towers Bldg., Little Rock 72205.	227-2770
FP	Laurenzana, Donald A.	3423 Pike Ave., North Little Rock 72118.	753-3661
RD	Lawson, Mason G.	200 Ridgeway, Little Rock 72205 (Res.)	663-4834

Type of Practice	Member's Name	Address	Telephone Number
A.....	Lee, J. Fred.....	P. O. Drawer A, Hillcrest Station, Little Rock 72205.....	664-3906
FP.....	Leonard, Garnett J.....	3115 JFK Boulevard, North Little Rock 72116.....	753-9464
OR.....	Lester, Joe K.....	1518 Main, North Little Rock 72114.....	375-0102
IM.....	Levy, Jerome S.....	500 S. University, Little Rock, Arkansas 72205.....	664-4181
CD.....	Lewis, W. Sexton.....	700 Medical Towers Bldg., Little Rock 72205.....	227-4434
R.....	Lile, Henry A.....	1100 Medical Towers Bldg., Little Rock 72205.....	227-5240
GS.....	Lincoln, Ben M.....	5326 W. Markham, Little Rock 72205.....	664-6705
U.....	Logan, Charles W.....	500 S. University, Little Rock 72205.....	664-4364
OR.....	Logue, Richard M.....	601 N. University, Little Rock 72205.....	666-0144
N.....	Lucy, Dennis D., Jr.....	4301 W. Markham, Little Rock 72201.....	664-5000
GS.....	Ludwig, Frank R.....	406 Pershing, North Little Rock 72114.....	758-1620
FP.....	Mallory, George L., Jr.....	4511 Lynch Dr., North Little Rock 72117.....	945-9271
IM.....	Marecek, Raymond L.....	900 N. University, Little Rock 72207.....	664-3600
PATH.....	Markland, Gary S.....	9600 W. 12th, Little Rock 72205.....	227-2888
FP.....	Marvin, Horace N., Jr.....	8824 Chicot Rd., Little Rock 72209.....	562-8600
IM.....	Massey, C. Garnett.....	1120 Medical Towers Bldg., Little Rock 72205.....	227-6770
A.....	Matthews, Joe W.....	P. O. Box 5675, Little Rock 72205.....	227-5210
P.....	Matthews, Robert R.....	4301 W. Markham, Little Rock 72201.....	664-5000
ANES.....	Means, Paul N.....	1150 Medical Towers Bldg., Little Rock 72205.....	227-7590
N.....	Miles, David A.....	500 S. University, Little Rock 72205.....	664-3018
OR.....	Millard, I. Leighton.....	P. O. Box 5270, Little Rock 72205.....	664-7600
NEPH.....	Miller, C. Lindsey.....	1120 Medical Towers Bldg., Little Rock 72205.....	227-6770
FP.....	Miller, Forrest B., Jr.....	3500 S. University, Little Rock 72204.....	562-4838
IM.....	Miller, Harold N.....	Port Charlotte, Florida.....	
ENT.....	Miller, Raymond P.....	5918 Lee, Little Rock 72205.....	664-2500
ADM.....	Milner, E. L.....	500 S. University, Little Rock 72205.....	664-4318
	Mitchell, George K.....	P. O. Box 2181, Little Rock 72203.....	378-2133
D.....	Moore, Burton A.....	500 S. University, Little Rock 72205.....	664-4161
NS.....	Moore, Jim J.....	500 S. University, Little Rock 72205.....	664-4560
U.....	Moore, J. Malcolm.....	500 S. University, Little Rock 72205.....	664-4364
FP.....	Moore, Rex N.....	P. O. Box 459, Jacksonville 72076.....	982-2141
IM.....	Moore, Robert B.....	5918 Lee, Little Rock 72205.....	664-2500
	Moore, Robert W.....	Texas.....	
OBG.....	Morgan, Frank E.....	410 Pershing, North Little Rock 72114.....	758-1022
R.....	Morris, Charles H.....	4301 W. Markham, Little Rock 72201.....	664-5000
IM.....	Morris, Woodbridge E.....	5326 W. Markham, Little Rock 72205.....	664-2111
R.....	Morrison, James R.....	500 S. University, Little Rock 72205.....	664-3914
OR.....	Mulhollan, James S.....	500 S. University, Little Rock 72205.....	664-1222
+	Munos, Louis R.....	4301 W. Markham, Little Rock 72201.....	664-5000
FP.....	Murphy, James E.....	1800 Maple, North Little Rock 72114.....	758-1640
P.....	Murphy, Randolph.....	4313 W. Markham, Little Rock 72205.....	664-4500
R.....	McAdoo, Hosea W., Jr.....	1100 Medical Towers Bldg., Little Rock 72205.....	227-5240
GYN.....	McCaskill, Melvin R.....	500 S. University, Little Rock 72205.....	664-4131
FP.....	McClain, Monroe D.....	VA Hospital, North Little Rock 72114.....	372-8361
OBG.....	McClintock, Everett M.....	712 University Tower Bldg., Little Rock 72204.....	664-0480
TS.....	McCracken, John D.....	Medical Towers Bldg., Little Rock 72205.....	227-8180
FP.....	McCrary, George A.....	P. O. Box 805, Jacksonville 72076.....	982-4551
FP.....	McGowan, Robert J., Jr.....	424 N. University, Little Rock 72205.....	664-4810
OTO.....	McGrew, Robert N.....	1200 Medical Towers Bldg., Little Rock 72205.....	227-5050
OR.....	McKenzie, Charles N.....	802 N. University, Little Rock 72205.....	666-0251
OBG.....	McKnight, C. Allen.....	800 Medical Towers Bldg., Little Rock 72205.....	227-5885
FP.....	McMillin, F. Lamar, Sr.....	1311 Louisiana, Little Rock 72202.....	374-6531
FP.....	Napper, George S.....	513 Main, North Little Rock 72114.....	375-2433
OR.....	Nasca, Richard J.....	1100 N. University, Little Rock 72207.....	664-7710
R.....	Nelson, Alvah J., III.....	500 S. University, Little Rock 72205.....	664-3914
R.....	Newbern, David H.....	500 S. University, Little Rock 72205.....	664-3914
RD.....	Nisbett, James M.....	517 E. 7th, Little Rock 72202 (Res.).....	375-2252
OR.....	Nixon, Ewing M.....	110 Doctors Park Bldg., Little Rock 72205.....	227-4150
R.....	Norton, Joseph A.....	8570 Cantrell Rd., Little Rock 72207.....	661-3671
PH.....	Oates, Gordon P.....	701 W. Markham, Little Rock 72201.....	376-4511
FP.....	Ogden, Mahlon D.....	4601 Woodlawn, Little Rock 72205.....	664-0769
P.....	Oglesby, Walter R.....	324 Pershing, North Little Rock 72114.....	753-5180
IM.....	O'Neal, Walter H.....	100 Doctors Park Bldg., Little Rock 72205.....	227-6350
PATH.....	Orr, William S., Jr.....	500 S. University, Little Rock 72205.....	664-3043
GS.....	Ozment, Kerry L.....	1000 Medical Towers Bldg., Little Rock 72205.....	227-8180
PATH.....	Packmore, Dalton E.....	St. Vincent Infirmary, Little Rock 72201.....	661-3371
NS.....	Padberg, Frank T.....	55 E. Erie St., Chicago, Illinois 60611.....	312-664-4050
OTO.....	Pappas, James J.....	1200 Medical Towers Bldg., Little Rock 72205.....	227-5050
OPH.....	Parker, J. Mayne.....	500 S. University, Little Rock 72205.....	666-9632
GS.....	Parnell, Clifton L., III.....	Little Rock Air Force Base Hospital, Jacksonville 72076.....	988-6193
CD.....	Pearce, Malcolm B.....	4301 W. Markham, Little Rock 72201.....	664-5000
PATH.....	Pehrson, Nils C.....	P. O. Box 5507, Brady Station, Little Rock 72205.....	666-9478
CP.....	Peters, John E.....	4301 W. Markham, Little Rock 72201.....	664-5000
OPH.....	Petursson, Gissur J.....	4301 W. Markham, Little Rock 72201.....	664-5000
OPH.....	Phillips, Bert L.....	1403 Main, North Little Rock 72114.....	376-2840
GS.....	Phipps, Woodrow E.....	P. O. Box 13, North Little Rock 72115.....	374-4821
GS.....	Pike, John D.....	500 S. University, Little Rock 72205.....	664-4321
ANES.....	Pollard, A. E.....	500 S. University, Little Rock 72205.....	661-3578
R.....	Pool, Chalmers S.....	VA Hospital, North Little Rock 72114.....	372-8361
PS.....	Pope, Norton A.....	850 Medical Towers Bldg., Little Rock 72205.....	227-6464
	Porter, J. O.....	Little Rock.....	
GE.....	Power, Robert C.....	409 N. University, Little Rock 72205.....	664-6980
CD.....	Price, Ben O.....	500 S. University, Little Rock 72205.....	664-2089
IM.....	Pringos, Andrew A.....	501 Woodlane, Little Rock 72201.....	375-3231
IM.....	Proctor, Clark B.....	VA Hospital, North Little Rock 72114.....	372-8361
FP.....	Purdy, Harold D.....	6924 Geyer Springs Rd., Little Rock 72209.....	562-1463
IM.....	Pyle, Hoyte R., Jr.....	5918 Lee, Little Rock 72205.....	664-2500
PATH.....	Quittner, Howard.....	4301 W. Markham, Little Rock 72201.....	664-5000
PD.....	Ramsay, Rex C.....	4815 W. Markham, Little Rock 72205.....	661-2111
FP.....	Raney, Donald M.....	P. O. Box 459, Jacksonville 72076.....	982-2141
D.....	Raque, Carl J.....	500 S. University, Little Rock 72205.....	664-4161
PUD.....	Rasch, James R.....	10001 Lile Dr., Little Rock 72205.....	227-8000
GS.....	Read, Raymond C.....	300 E. Roosevelt, Little Rock 72206.....	372-8361
RD.....	Reaves, B. James.....	4 Edgehill Rd., Little Rock 72207 (Res.).....	663-1570
U.....	Redman, John F.....	4301 W. Markham, Little Rock 72201.....	664-5000
OBG.....	Reed, Ewing C., Jr.....	200 Doctors Park Bldg., Little Rock 72205.....	227-6377
+	Reese, Robert L.....	4301 W. Markham, Little Rock 72201.....	664-5000
P.....	Reese, William G.....	4301 W. Markham, Little Rock 72201.....	664-5000
R.....	Regnier, George G.....	500 S. University, Little Rock 72205.....	664-3914
GS.....	Relyea, William V.....	P. O. Box 747, Jacksonville 72076.....	982-4525
R.....	Rhinehart, William J.....	500 S. University, Little Rock 72205.....	664-3914
GS.....	Richardson, Robert E.....	500 S. University, Little Rock 72205.....	664-4321
GS.....	Richmond, Samuel V.....	927 Donaghey Bldg., Little Rock 72201.....	372-5101
FP.....	Riddle, John F., Jr.....	8824 Chicot Rd., Little Rock 72209.....	562-8600
FP.....	Riegler, Nicholas W., Jr.....	1024 Scott, Little Rock 72202.....	375-3326

Type of Practice	Member's Name	Address	Telephone Number
FP.	Riley, William H.	3500 S. University, Little Rock 72204.	562-4838
P.	Ringdahl, Irving C.	4301 W. Markham, Little Rock 72201.	664-5000
FP.	Ritchie, Elmer J.	1401 Main, North Little Rock 72114.	372-5253
OPH.	Roberson, Michael C.	623 Woodlane, Little Rock 72201.	374-6491
IM.	Robins, Rowland R.	VA Hospital, North Little Rock 72114.	372-8361
O8G.	Rodgers, C. Dudley.	500 S. University, Little Rock 72205.	664-4131
FP.	Rodgers, Charles H.	3500 S. University, Little Rock 72204.	562-4838
O8G.	Rodgers, Clyde D.	500 S. University, Little Rock 72205.	664-4131
O8G.	Roman-Lopez, Juan J.	500 S. University, Little Rock 72205.	664-4191
OR.	Rooney, Thomas P.	501 W. 25th, North Little Rock 72114.	758-2046
RD.	Rosenbaum, Carl A.	Route 1, Box 274, Scott 72142 (Res.).	961-9228
OR.	Ross, Ashley S.	500 S. University, Little Rock 72205.	664-1222
GYN.	Ross, Robert W.	417 N. University, Little Rock 72205.	664-8200
HEMA.	Ross, S. William.	10001 Lile Dr., Little Rock 72205.	227-8000
PATH.	Roth, Sanford I.	4301 W. Markham, Little Rock 72201.	664-5000
	Rothert, Frances C.	Guatemala City, Guatemala	
OTO.	Rounsaville, Harry L.	500 S. University, Little Rock 72205.	664-4381
OPH.	Roy, F. Hampton.	390 Medical Towers Bldg., Little Rock 72205.	227-6980
PATH.	Rozzell, Allen R.	500 S. University, Little Rock 72205.	661-3371
R.	Rubin, Sanford A.	4301 W. Markham, Little Rock 72201.	664-5000
OTO.	Ruggles, Dwayne L.	520 W. 26th, North Little Rock 72114.	758-6560
OR.	Runyan, W. A.	110 Doctors Park Bldg., Little Rock 72205.	227-4150
FP.	Saltzman, Ben N.	4301 W. Markham, Little Rock 72201.	227-3260
	*Sanderlin, Joe H.	Little Rock	
TS.	Satterfield, John V.	500 S. University, Little Rock 72205.	664-6050
P.	Schneider, Mildred F.	VA Hospital, North Little Rock 72114.	372-8361
OR.	Schranz, James L.	1100 N. University, Little Rock 72207.	664-9446
FP.	Schratz, Bruce E.	1801 Maple, North Little Rock 72114.	758-1002
OPH.	Schroeder, George T.	5700 W. Markham, Little Rock 72205.	664-5100
IM.	Schultz, John C.	10001 Lile Dr., Little Rock 72205.	227-8000
GS.	Schwander, Howard.	320 Doctors Park Bldg., Little Rock 72205.	227-7200
OPH.	Schwarz, W. J.	405 N. University, Little Rock 72205.	664-5354
OR.	Selakovich, W. G.	500 S. University, Little Rock 72205.	666-2824
FP.	Sessions, Leslie H.	424 N. University, Little Rock 72205.	664-4810
	Setliff, Don P.	San Diego, California	
P.	Shannon, Robert F.	4301 W. Markham, Little Rock 72201.	664-5000
+	Sharp, Jim.	4301 W. Markham, Little Rock 72201.	664-5000
ADM.	Shorey, Winston K.	4301 W. Markham, Little Rock 72201.	664-8410
OR.	Shuffield, H. Elvin.	110 Doctors Park Bldg., Little Rock 72205.	227-4150
O8G.	Simmons, Orman W.	310 Doctors Park Bldg., Little Rock 72205.	227-7555
IM.	Simpson, N. Henry.	441 Donaghey Bldg., Little Rock 72201.	375-2801
NP.	Sims, James M.	324 Pershing, North Little Rock 72114.	753-5180
GS.	Sipes, Frank M.	403 Donaghey Bldg., Little Rock 72201.	375-5543
R.	Slayden, John E.	4301 W. Markham, Little Rock 72201.	664-5000
ANES.	Sloan, Fay M.	1150 Medical Towers Bldg., Little Rock 72205.	227-7590
GYN.	Sloan, James M.	500 S. University, Little Rock 72205.	664-2277
GE.	Smart, Douglas F.	409 N. University, Little Rock 72205.	664-6980
P.	Smith, Aubrey C.	12115 Hinson Rd., Little Rock 72207.	227-0680
FP.	Smith, Huie H.	4007 Lakeview Rd., North Little Rock 72116 (Res.).	753-1336
OPH.	Smith, James L.	623 Woodlane, Little Rock 72201.	374-6491
OPH.	Smith, Joe E.	7107 W. 12th, Little Rock 72204.	666-8627
FP.	Smith, John McCollough.	4000 Woodlawn, Little Rock 72205.	666-6570
OTO.	Smith, John W.	1415 W. 6th, Little Rock 72201.	372-0036
GYN.	Smith, Mose, III.	5326 W. Markham, Little Rock 72205.	664-1527
R.	Smith, Phillip L.	4301 W. Markham, Little Rock 72201.	664-5000
A.	Smith, Purcell, Jr.	P. O. Box 5675, Little Rock 72205.	227-5210
GE.	Smith, Thomas J.	409 N. University, Little Rock 72205.	664-6980
PD.	Smith, Thomas W.	500 S. University, Little Rock 72205.	664-4117
OTO.	Smith, Tom.	330 Medical Towers Bldg., Little Rock 72205.	227-4863
RD.	Snodgrass, William A., Jr.	3850 8 Rue Maison, Mobile, Alabama 36608 (Res.).	205-342-4845
OR.	Sorrells, R. Barry.	P. O. Box 5270, Little Rock 72205.	666-9491
RD.	Spitzberg, Irving J.	307 N. Cedar, Little Rock 72205 (Res.).	663-6877
FP.	Springer, Worthie R., Jr.	1624 Maryland, Little Rock 72202.	374-2635
PUD.	Squire, Arthur E., Jr.	400 Pershing North Little Rock 72114.	227-8000
GS.	Stainton, Robert M.	500 S. University, Little Rock 72205.	664-4175
IM.	Stanley, Joe P.	Pike Plaza Center, North Little Rock 72114.	376-4023
RD.	Stathakis, John A.	Quapaw Tower Apartments, Little Rock 72202 (Res.).	372-0098
OR.	Steele, William L.	1100 N. University, Little Rock 72207.	664-7710
PH.	Steinkamp, Ruth C.	4815 W. Markham, Little Rock 72205.	661-2235
P.	Stephens, Wanda J.	1090 Medical Towers Bldg., Little Rock 72205.	225-9750
TS.	Stewart, Bill D.	415 N. University, Little Rock 72205.	664-1521
FP.	Stotts, John R.	5905 "R" St., Little Rock 72207.	663-9415
FP.	Strauss, Alvin W., Jr.	1026 Donaghey Bldg., Little Rock 72201.	372-1828
IM.	Strauss, Mark A.	1026 Donaghey Bldg., Little Rock 72201.	372-1828
PD.	Stroope, George F.	516 Pershing, North Little Rock 72114.	758-1530
PS.	Stuckey, James G.	500 S. University, Little Rock 72205.	664-4383
OTO.	Suen, James Y.	4301 W. Markham, Little Rock 72201.	664-5000
U.	Suliman, J. Samir.	518 W. 26th, North Little Rock 72114.	758-6111
P.	Sundermann, Richard H.	4301 W. Markham, Little Rock 72201.	664-5000
P.	Sutton, Lewis R.	12115 Hinson Rd., Little Rock 72207.	227-0680
PH.	Swindoll, Bryant S.	4815 W. Markham, Little Rock 72205.	661-2124
IM.	Taylor, Eugene H.	10001 Lile Dr., Little Rock 72205.	227-8000
	*Taylor, James S.	Little Rock	
PD.	Teeter, John A.	5804 W. Markham, Little Rock 72205.	664-1767
GE.	Texter, E. Clinton.	4301 W. Markham, Little Rock 72201.	664-5000
OPH.	Thomas, A. Henry.	500 S. University, Little Rock 72205.	664-8445
OR.	Thomas, Jerry L.	500 S. University, Little Rock 72205.	664-1222
GS.	Thomas, Peter O.	1310 Cantrell Rd., Little Rock 72201.	374-5703
CD.	Thompson, A. J.	500 S. University, Little Rock 72205.	664-5560
GS.	Thompson, Bernard W.	300 E. Roosevelt, Little Rock 72206.	372-8361
ANES.	Thompson, Dola S.	4301 W. Markham, Little Rock 72201.	664-5000
OR.	Thompson, Lawrence L.	1310 Cantrell Rd., Little Rock 72201.	375-5381
NP.	Thompson, Robert M.	819 University Tower Bldg., Little Rock 72204.	664-2444
OR.	Thompson, Samuel B.	1100 N. University, Little Rock 72207.	664-7710
ADM.	Thorn, G. Max.	St. Vincent Infirmary, Little Rock 72201.	661-3154
FP.	Tilley, Stephen.	5905 "R" St., Little Rock 72207.	663-9415
R.	Tirman, Robert M.	300 E. Roosevelt, Little Rock 72206.	372-8361
IM.	Tolbert, Louis E., Jr.	500 S. University, Little Rock 72205.	666-0136
ADM.	Towbin, Eugene J.	300 E. Roosevelt, Little Rock 72206.	372-8361
ANES.	Tseng, Jyi-Ming.	1150 Medical Towers Bldg., Little Rock 72205.	227-7590
	Tudor, John M., Jr.	Ann Arbor, Michigan	
ANES.	Valentine, Robert G.	201 W. 18th Street, North Little Rock 72114.	758-4806
ANES.	Vaughter, W. Roger.	3 Ken Circle, Little Rock 72207.	664-3789
+	Vieras, Frank.	4301 W. Markham, Little Rock 72201.	664-5000
FP.	Wade, William J.	424 N. University, Little Rock 72205.	664-4810

Type of Practice	Member's Name	Address	Telephone Number
IM	Wagoner, Jack	5918 Lee, Little Rock 72205	664-2500
GYN	Wallace, Deane D.	500 S. University, Little Rock 72205	664-5315
+	Wallace, Thomas R.	4301 W. Markham, Little Rock 72201	664-5000
RD	Wallis, Charles	5909 Country Club, Little Rock 72207 (Res.)	663-2132
GS	Walt, James R.	500 S. University, Little Rock 72205	664-4146
ANES	Wang, Jerry S. Y.	1150 Medical Towers Bldg., Little Rock 72205	227-7590
ANES	Ward, Joseph P.	1150 Medical Towers Bldg., Little Rock 72205	227-7590
FP	Ward, Mildred E.	1700 W. 13th, Little Rock 72202	227-3260
PD	Warford, Lloyd R.	500 S. University, Little Rock 72205	664-4044
N	Warford, Walton R.	VA Hospital, North Little Rock 72114	372-8361
FP	*Washburn, Arthur M.	Little Rock	
FP	Wassell, John R.	VA Hospital, North Little Rock 72114	372-8361
OPH	Watkins, John G.	230 Doctors Park Bldg., Little Rock 72205	227-6797
NS	Watson, Robert	750 Medical Towers Bldg., Little Rock 72205	225-0880
FP	Weber, James R.	P. O. Box 188, Jacksonville 72076	982-2108
IM	Wellons, James A., Jr.	10001 Lile Dr., Little Rock 72205	227-8000
IM	Wells, Travis L.	216 Donaghey Bldg., Little Rock 72201	375-7121
GS	Wenger, Carl E.	330 Doctors Park Bldg., Little Rock 72205	227-6363
GS	Westbrook, Kent C.	4301 W. Markham, Little Rock 72201	664-5000
NP	Westerfield, Frank M., Jr.	230 Medical Towers Bldg., Little Rock 72205	225-0777
FP	White, Oba B.	200 Century Bldg., Little Rock 72201	374-3609
P	Whitehead, R. H., Jr.	4 Biscayne Court, Little Rock 72207 (Res.)	225-1921
RD	Wilbur, E. Lloyd	3 Wingate Dr., Little Rock 72205 (Res.)	225-1252
FP	Wilkes, Elbert H.	5322 W. Markham, Little Rock 72205	663-4114
TS	Williams, G. Doynne	4301 W. Markham, Little Rock 72201	664-5000
+	Wilson, Frank J.	4301 W. Markham, Little Rock 72201	664-5000
ANES	Wilson, George E., Jr.	500 S. University, Little Rock 72205	664-4532
CD	Wilson, James W. D.	500 S. University, Little Rock 72205	664-4166
OR	Wilson, John L.	601 N. University, Little Rock 72205	666-0144
OPH	Wilson, Ralph S.	4301 W. Markham, Little Rock 72201	664-5000
IM	Winn, Charles R.	240 Doctors Park Bldg., Little Rock 72205	227-6659
OBG	Wood, Gary P.	4301 W. Markham, Little Rock 72201	664-5000
FP	Wortham, Thomas H.	P. O. Box 459, Jacksonville 72076	982-2141
END	Wynn, James O.	4301 W. Markham, Little Rock 72201	664-5000
PATH	Young, Douglas E.	9600 W. 12th, Little Rock 72205	227-2888
U	Young, Jerry M.	406 Pershing, North Little Rock 72114	758-1310
D	Zell, Lawrence M.	937 Donaghey Bldg., Little Rock 72201	374-5158

RANDOLPH COUNTY

FP	Baltz, Albert L.	110 W. Broadway, Pocahontas 72455	892-3111
FP	Baltz, Matthias A.	110 W. Broadway, Pocahontas 72455	892-3111
FP	Barre, Hal S.	P. O. Box 585, Pocahontas 72455	892-3371
FP	DeClerk, Thomas B.	204 Thomasville, Pocahontas 72455	892-3344
FP	Scott, William W.	P. O. Box 585, Pocahontas 72455	892-3371
FP	Smith, Norman K.	107 Van Bibber, Pocahontas 72455	892-3389
GS	Wyllie, James J.	308 W. Broadway, Pocahontas 72455	892-5100

SALINE COUNTY

ADM	Adams, Carl H.	P. O. Box 500, Grady 71644	479-3311
FP	Ashby, John W.	302 W. South, Benton 72015	778-4511
R	Ashby, Robert M.	Saline Memorial Hospital, Benton 72015	776-0611
GS	Baber, Quin, Jr.	105 McNeil, Benton 72015	778-7435
OM	Barbour, Victor H.	P. O. Box 300, Bauxite 72011	778-3644
FP	Bethel, James C.	300 E. Roosevelt, Little Rock 72206	372-8361
FP	Callaway, James R.	Benton Services Center, Benton 72015	778-1111
PMR	Cornwell, Samuel L.	Route 3, Box 225, Benton 72015	371-1906
OBG	Council, Robert A., Jr.	910 N. East, Benton 72015	778-0426
OR	Duncan, J. Shelby	105 McNeil, Benton 72015	778-1388
FP	Hogue, F. Paul	P. O. Box 307, Benton 72015	778-4511
	Hood, Robert H.	Tyler, Texas	
FP	Izard, Ralph	P. O. Box AA, Bryant 72022	847-0289
FP	Jones, Curtis W., Jr.	223 S. Market, Benton 72015	778-2722
FP	Jones, Curtis W., Sr.	225 S. Market, Benton 72015	778-2722
FP	Jones, Robert E.	225 S. Market, Benton 72015	778-3608
FP	Kirk, Marvin N.	P. O. Box 399, Benton 72015	778-8264
FP	Marfindale, J. L.	323 Short St., Benton 72015	778-1124
P	Mizell, Walter S.	Benton Services Center, Benton 72015	778-1111
	McNichol, Ronald W.	Jamestown, North Dakota	
ANES	Porter, Jim C.	910 N. East, Benton 72015	776-0052
A	Rountree, Helen	P. O. Box 370, Benton 72015	778-0421
+	Stocker, William J.	8101 Cantrell Rd., Little Rock 72207 (Res.)	227-7882
OBG	Thibault, Frank G., Jr.	910 N. East, Benton 72015	778-0426
P	Thompson John P.	Benton Services Center, Benton 72015	778-1111
FP	Thorn, H. B., Jr.	302 W. South, Benton 72015	778-4511
GS	Viner, Donald L.	105 McNeil, Benton 72015	778-7435
FP	Wright, John D.	321 Short St., Benton 72015	778-1119

SCOTT COUNTY

FP	Wright, Harold B.	P. O. Box 249, Waldron 72958	637-3111
----	-------------------	------------------------------	----------

SEBASTIAN COUNTY

PD	Aclin, Richard R.	500 S. 16th, Fort Smith 72901	783-1085
RD	Adams, W. F.	1100 Murta Rd., Van Buren 72956 (Res.)	474-8668
OR	Alberty, Joe Paul	300 N. Greenwood, Fort Smith 72901	783-0225
EM	Alexander, R. Kent	1311 S. "I", Fort Smith 72901	441-4381
	*Allen, George W.	Fort Smith	
GS	Anderson, Paul M.	320 N. Greenwood, Fort Smith 72901	782-4066
OBG	Atkins, Jimmie G.	1500 Dodson, Fort Smith 72901	782-4091
FP	Bailey, Charles W.	P. O. Box 416, Greenwood 72936	996-4111
P	Baker, Max A.	924 Adelaide, Fort Smith 72901	785-1428
OPH	Bone, James L.	1500 Dodson, Fort Smith 72901	782-4091
D	Bradford, A. C.	Waldron Road at Ellsworth, Fort Smith 72901	452-2077
R	Broadwater, John R.	1500 Dodson, Fort Smith 72901	782-4091
OR	Brown, Byron L.	100 N. 16th, Fort Smith 72901	783-3604
NS	Brown, James A.	1500 Dodson, Fort Smith 72901	782-4091
OR	Buie, James H.	1500 Dodson, Fort Smith 72901	782-4091
EM	Busby, James D.	7301 Rogers, Fort Smith 72901	452-5100
PD	Cabell, Ben B.	312 S. 16th, Fort Smith 72901	782-7921
R	Cassady, Calvin R.	P. O. Box 1612, Fort Smith 72901	782-4091
P	Chambers, Donald S.	924 Adelaide, Fort Smith 72901	785-1428
ANES	Chamblin, Don W.	1500 Dodson, Fort Smith 72901	782-4091
TS	Clemmons, Edward E.	522 S. 16th, Fort Smith 72901	785-1413

Type of Practice	Member's Name	Address	Telephone Number
ANES	Coffman, Edwin L.	1500 Dodson, Fort Smith 72901	782-4091
NEPH	Coleman, Michael D.	1500 Dodson, Fort Smith 72901	782-4091
CR	Crigler, Ralph E.	1500 Dodson, Fort Smith 72901	782-4091
R	Crow, Neil E.	P. O. Box 1612, Fort Smith 72901	782-4091
R	Culp, William C.	318 N. Greenwood, Fort Smith 72901	783-6174
EM	Cunningham, Charles S.	1311 S. "I", Fort Smith 72901	441-4381
EM	Darnall, Harley C.	P. O. Box 3491, Fort Smith 72901	441-4000
PATH	Davenport, Leo.	922 Lexington, Fort Smith 72901	785-1447
P	Dorzab, Joe H.	924 Adelaide, Fort Smith 72901	785-1428
O&G	Ellis, Homer G.	P. O. Box 3507, Fort Smith 72901	785-2411
OPH	Faier, Samuel Z.	1500 Dodson, Fort Smith 72901	782-4091
HEMA	Fecher, Dennis R.	1500 Dodson, Fort Smith 72901	782-4091
U	Feder, Frederick P.	720 Lexington, Fort Smith 72901	782-7261
FP	Feild, T. A., III.	3600 N. "O", Fort Smith 72901	783-5158
OPH	Felker, Gary V.	912 Lexington, Fort Smith 72901	782-1023
ANES	Fisher, Robert D.	1500 Dodson, Fort Smith 72901	782-4091
PD	Floyd, Charles H.	617 S. 16th, Fort Smith 72901	783-3165
U	Francis, Darryl R., II.	600 S. 14th, Fort Smith 72901	785-2604
OTO	Gedosh, Edgar A.	600 S. 16th, Fort Smith 72901	782-6022
R	Gill, James A.	1500 Dodson, Fort Smith 72901	782-4091
PDC	Gilliland, J. Campbell.	1500 Dodson, Fort Smith 72901	782-4091
PATH	Girkin, R. Gene.	922 Lexington, Fort Smith 72901	785-1447
RD	Goldstein, Davis W.	Waldron Road at Ellsworth, Fort Smith 72901	452-2077
ANES	Goodman, Raymond C.	1500 Dodson, Fort Smith 72901	782-4091
N	Griggs, William L., III.	1500 Dodson, Fort Smith 72901	782-4091
OR	Hathcock, Alfred B.	1500 Dodson, Fort Smith 72901	782-4091
GS	Hawkins, S. Wright.	Waldron Road at Ellsworth, Fort Smith 72901	452-2077
U	Hewett, Archie L.	600 S. 14th, Fort Smith 72901	785-2604
GS	Hoge, Marlin B.	320 N. Greenwood, Fort Smith 72901	782-4066
IM	Holman, William A.	Waldron Road at Ellsworth, Fort Smith 72901	452-2077
GS	Holmes, Williams C., Jr.	Waldron Road at Ellsworth, Fort Smith 72901	452-2077
ADM	Hornberger, E. Z., Jr.	1311 S. "I", Fort Smith 72901	441-4000
OPH	Hughes, Robert P., Jr.	1214 N. "B", Fort Smith 72901	782-8894
R	Huskison, William T.	318 N. Greenwood, Fort Smith 72901	783-6174
O&G	Hyde, Marshall L.	P. O. Box 3507, Fort Smith 72901	785-2411
FP	Ingram, Ralph N.	1120 Lexington, Fort Smith 72901	785-2657
OR	Irwin, Peter J.	1500 Dodson, Fort Smith 72901	782-4091
GS	Janes, Robert H.	1500 Dodson, Fort Smith 72901	782-4091
EM	Jones, W. Duane	1311 S. "I", Fort Smith 72901	441-4381
O&G	Kelsey, J. F.	P. O. Box 3507, Fort Smith 72901	785-2411
RD	Kennedy, Virgil N.	5417 Grand Ave., Fort Smith 72901 (Res.)	452-3351
CD	*Kirkpatrick, Hoyt, Jr.	Fort Smith	
OR	Klopfenstein, Keith.	1500 Dodson, Fort Smith 72901	782-4091
PATH	Knight, William E.	1500 Dodson, Fort Smith 72901	782-4091
PATH	Koenig, A. Samuel, III.	922 Lexington, Fort Smith 72901	785-1447
PATH	Koenig, Albert S.	922 Lexington, Fort Smith 72901	785-1447
O&G	Kradel, R. Paul	Waldron Road at Ellsworth, Fort Smith 72901	452-2077
FP	Kramer, Ralph G.	603 Lexington, Fort Smith 72901	783-8911
RD	Krock, Fred H.	3700 Free Ferry, Fort Smith 72901 (Res.)	783-4832
IM	Kutait, Kemal E.	1120 Lexington, Fort Smith 72901	785-2655
IM	Lambiotte, Louis O.	1500 Dodson, Fort Smith 72901	782-4091
PATH	Landrum, Annette V.	P. O. Box 1684, Fort Smith 72901	782-4983
GS	Landrum, Samuel E.	522 S. 16th, Fort Smith 72901	785-1413
OTO	Lane, Charles S., Jr.	600 S. 16th, Fort Smith 72901	782-6022
ANES	Lenington, Jerry O.	1500 Dodson, Fort Smith 72901	782-4091
IM	Lewing, Hugh S.	P. O. Box 3006, Fort Smith 72901	783-3159
FP	Lilly, Ken E.	1120 Lexington, Fort Smith 72901	785-2655
NS	Lockhart, William G.	1500 Dodson, Fort Smith 72901	782-4091
GS	Lockwood, Frank M.	1500 Dodson, Fort Smith 72901	782-4091
OR	Long, James W.	1500 Dodson, Fort Smith 72901	782-4091
IM	Magness, Jack L., Jr.	Oklahoma City, Oklahoma	
FP	Martin, Art B.	1500 Dodson, Fort Smith 72901	782-4091
O&G	Martin, Maurice C. (Rick)	P. O. Box 678, Greenwood 72963	996-4111
IM	Mason, Joe N.	1500 Dodson, Fort Smith 72901	782-4091
IM	Masri, Hassan M.	1500 Dodson, Fort Smith 72901	782-4091
FP	Meador, Don M.	3600 N. "O", Fort Smith 72901	783-5158
R	Mendelsohn, E. A.	1500 Dodson, Fort Smith 72901	782-4091
GS	Mings, Harold H.	1500 Dodson, Fort Smith 72901	782-4091
OPH	Moulton, Everett C., Jr.	1214 N. "B", Fort Smith 72901	782-8892
RD	Murchison, Roary A.	19 Haven Dr., Fort Smith 72901 (Res.)	782-5323
D	McCraney, Holden C.	217 Lexington, Fort Smith 72901	783-0297
FP	McDonald, H. P.	2044 N. 29th, Fort Smith 72901	782-4833
OPH	McEwen, Stanley R.	1214 N. "B", Fort Smith 72901	782-8892
IM	McMinimy, D. J.	1500 Dodson, Fort Smith 72901	782-4091
ANES	Northum, Charles S.	1500 Dodson, Fort Smith 72901	782-4091
GS	Olson, John D.	1500 Dodson, Fort Smith 72901	782-4091
IM	Paris, Charles H.	Waldron Road at Ellsworth, Fort Smith 72901	452-2077
PD	Parker, Joel E., Jr.	617 S. 16th, Fort Smith 72901	783-3165
R	Parker, Thomas G.	318 N. Greenwood, Fort Smith 72901	783-6174
FP	Parta, H. John.	3120 Jenny Lind, Fort Smith 72901	782-4986
TS	Patrick, Donald L.	1500 Dodson, Fort Smith 72901	782-4091
IM	Pellar, Donald H.	Saco, Maine	
O&G	Pence, Eldon D., Jr.	314 N. Greenwood, Fort Smith 72901	782-3001
FP	Phillips, William P.	P. O. Box 3507, Fort Smith 72901	785-2411
IM	Pillstrom, L. G.	1120 Lexington, Fort Smith 72901	785-2655
CD	Poe, McDonald, Jr.	320 N. Greenwood, Fort Smith 72901	782-3001
PD	Pope, John R.	1500 Dodson, Fort Smith 72901	782-4091
CD	Post, James M., Jr.	617 S. 16th, Fort Smith 72901	783-3165
IM	Prewitt, Taylor A.	Waldron Road at Ellsworth, Fort Smith 72901	452-2077
OTO	Price, Lawrence C.	P. O. Box 3006, Fort Smith 72901	783-3159
N	Raymond, Thomas H.	600 S. 16th, Fort Smith 72901	782-6022
R	Reul, Charles G.	1500 Dodson, Fort Smith 72901	782-4091
R	Rogers, Paul L.	318 N. Greenwood, Fort Smith 72901	783-6174
ANES	Russell, Rex D.	1500 Dodson, Fort Smith 72901	782-4091
GS	Safranek, Edward J.	216-A N. Greenwood, Fort Smith 72901	783-1497
A	Saviers, Boyd M.	1500 Dodson, Fort Smith 72901	782-4091
IM	Schirmer, Roy E.	1420 S. "I", Fort Smith 72901	782-2983
O&G	Schwarz, Paul R.	404 S. 16th, Fort Smith 72901	783-3159
FP	Sherman, Robert L.	P. O. Box 3507, Fort Smith 72901	785-2411
FP	Shermer, J. P.	623 S. 21st, Fort Smith 72901	783-1520
P	Shippey, W. L.	612 S. 24th, Fort Smith 72901	783-7227
O&G	Sims, Henry M.	VA Hospital, North Little Rock 72114	372-8361
PATH	Smith, Douglas B.	P. O. Box 3507, Fort Smith 72901	785-2411
R	Smith, Kent.	922 Lexington, Fort Smith 72901	785-1447
	Snider, James R.	P. O. Box 1612, Fort Smith 72901	782-4091

Type of Practice	Member's Name	Address	Telephone Number
OR	Stanton, William B.	300 N. Greenwood, Fort Smith 72901	783-0225
PUD.	Stewart, Jerry R.	Waldron Road at Ellsworth, Fort Smith 72901	452-2077
FP	Stewart, John B.	603 Lexington, Fort Smith 72901	783-8917
PS	Still, Eugene F., II	1500 Dodson, Fort Smith 72901	782-4091
FP	Swena, Richard R.	1322 N. "B", Fort Smith 72901	785-2426
OBG	Tate, William B.	1500 Dodson, Fort Smith 72901	782-4091
FP	Thompson, James B.	605 Lexington, Fort Smith 72901	782-6081
IM	Thompson, J. Kenneth	Waldron Road at Ellsworth, Fort Smith 72901	452-2077
FP	Thompson, Robert J.	605 Lexington, Fort Smith 72901	782-6081
HEMA	Turner, William F.	1500 Dodson, Fort Smith 72901	782-4091
D.	Vanderpool, Roy E.	Waldron Road at Ellsworth, Fort Smith 72901	452-2077
U.	Wahman, Gerald E.	1500 Dodson, Fort Smith 72901	782-4091
OPH	Wallace, Kenneth K.	1214 N. "B", Fort Smith 72901	782-8894
PD	Watts, John C.	500 S. 16th, Fort Smith 72901	783-1085
IM	Wells, John D.	Waldron Road at Ellsworth, Fort Smith 72901	452-2077
ANES	Westermann, Norman F.	1500 Dodson, Fort Smith 72901	782-4091
OBG	Whitaker, T. J., Jr.	1823 Dodson, Fort Smith 72901	782-4929
IM	White, J. Earle	2702 Barry, Fort Smith 72901	783-3126
PH	Whittaker, Louie A.	708 Lexington, Fort Smith 72901	785-2801
OR	Wideman, John W.	300 N. Greenwood, Fort Smith 72901	783-0225
CD	Williams, Carl L.	522 S. 16th, Fort Smith 72901	785-1413
CD	Williams, Thomas N.	1500 Dodson, Fort Smith 72901	782-4091
U.	Wilson, Carl L.	1500 Dodson, Fort Smith 72901	782-4091
U.	Wilson, Morton C.	1500 Dodson, Fort Smith 72901	782-4091
U.	Wilson, Steven K.	1500 Dodson, Fort Smith 72901	782-4091
TS	Woods, Leon P.	1500 Dodson, Fort Smith 72901	782-4091
FP	Woods, William M.	P. O. Box 246, Huntington 72940	928-5060

SEVIER COUNTY

GS	Balch, James I.	P. O. Box 68, DeQueen 71832	584-3520
FP	Brown, O. D., Jr.	P. O. Box 890, DeQueen 71832	584-2465
FP	Buffington, Mike	P. O. Box 391, DeQueen 71832	584-2022
FP	Citty, Jim C.	P. O. Box 391, DeQueen 71832	584-2022
FP	Daniel, J. Frank	Highway 70 West, DeQueen 71832	584-2022
FP	Daugherty, Joe D.	P. O. Box 890, DeQueen 71832	584-2465
GP	Dickinson, George W.	P. O. Box 930, DeQueen 71832	584-2344
FP	Dickinson, Richard 8. (Bill)	P. O. Box 930, DeQueen 71832	584-2344
FP	Dickinson, Rodger C.	P. O. Box 930, DeQueen 71832	584-2344
FP	Jones, Charles N.	P. O. Box 391, DeQueen 71832	584-2022
FP	Joseph, Eugene A.	607 W. Woodruff, Searcy 72143	268-7143
GS	Norwood, William L.	Highway 70 West, DeQueen 71832	584-2022
FP	Pullen, Wayne G.	P. O. Box 391, DeQueen 71832	584-2022
R	*Shukers, C. F., II	DeQueen	
	Williams, William C.	Highway 70 West, DeQueen 71832	584-2022

ST. FRANCIS COUNTY

	*Bradley, Adron M.	Forrest City	
RD	Chaffin, E. J.	P. O. Box 667, Hughes 72348	339-2914
FP	Cogburn, Harold N.	P. O. Box 4000, Forrest City 72335	633-1425
FP	Collins, E. Morgan	P. O. Box 989, Forrest City 72335	633-1952
FP	Collum, Grady R.	P. O. Box 577, Hughes 72348	339-2111
FP	Crawley, Charles E.	P. O. Box 4000, Forrest City 72335	633-1425
FP	Fong, Fun H.	P. O. Box 735, Hughes 72348	339-2373
FP	Hammons, Edward P.	P. O. Box 4000, Forrest City 72335	633-1425
FP	Hollis, Herbert H.	317 N. Washington, Forrest City 72335	633-4209
FP	Laney, J. Neal	325 N. Washington, Forrest City 72335	633-4711
FP	Lockhart, David L.	P. O. Box 70, Forrest City 72335	633-1243
FP	McPhail, George T.	P. O. Box 989, Forrest City 72335	633-1952
FP	Sexton, G. A.	328 Kittel Road, Forrest City 72335	633-1425

UNION COUNTY

OR	Callaway, James C.	619 W. Grove, El Dorado 71730	863-5146
FP	Carroll, Peter J.	416 N. Newton, El Dorado 71730	862-5119
FP	Cathey, A. D.	112 W. Peach, El Dorado 71730	863-4128
U.	Clark, James F.	524 W. Faulkner, El Dorado 71730	863-4267
FP	Clowney, A. R.	312 Thompson, El Dorado 71730	863-4101
RD	Cullins, John G.	1412 S. Taylor St., Little Rock 72204 (Res.)	663-8201
OTO	Cyphers, Charles D.	519 W. Faulkner, El Dorado 71730	862-3471
FP	Dunn, Tom L.	P. O. Box 538, Hampton 71744	798-2241
PATH	Duzan, Kenneth R.	443 W. Oak, El Dorado 71730	862-1351
PATH	Elliott, Wayne G.	443 W. Oak, El Dorado 71730	862-1351
IM	Ellis, Jacob P.	714 W. Faulkner, El Dorado 71730	862-5184
GYN	Fitch, Leston E.	445 W. Oak, El Dorado 71730	863-7217
FP	Harper, John W.	425 W. Oak, El Dorado 71730	863-5135
OR	Hartmann, Ernest R.	619 W. Grove, El Dorado 71730	863-5146
GS	Henley, Paul G.	700 W. Faulkner, El Dorado 71730	863-9542
FP	Hill, Grady E.	427 W. Oak, El Dorado 71730	863-7158
RD	Jameson, Sam G.	711 N. Madison, El Dorado 71730 (Res.)	862-2681
R	King, Billy D.	460 W. Oak, El Dorado 71730	863-2253
OPH	Landers, Gardner H.	318 Thompson, El Dorado 71730	862-4216
FP	Moore, Berry L., Jr.	615 W. Grove, El Dorado 71730	863-4185
GS	Moore, John H.	412 N. Washington, El Dorado 71730	862-3411
U	Murfee, Robert M.	427 W. Oak, El Dorado 71730	862-5439
PD	McKinney, J. Schuler	209 Thompson, El Dorado 71730	862-4994
GS	Pinson, John H., Jr.	312 Thompson, El Dorado 71730	863-4101
IM	Pirnique, Allan S.	714 W. Faulkner, El Dorado 71730	862-5184
FP	Riley, Warren S.	526 W. Faulkner, El Dorado 71730	863-4508
R	Roesler, Marvin J.	700 W. Grove, El Dorado 71730	862-6661
PD	Rogers, Henry B.	209 Thompson, El Dorado 71730	862-4994
D	Sample, Dorothy C.	525 W. Faulkner, El Dorado 71730	862-5485
GS	Scurlock, William R.	412 N. Washington, El Dorado 71730	862-3411
FP	Seale, J. E., Jr.	528 W. Faulkner, El Dorado 71730	863-7154
FP	Smith, George W.	427 W. Oak, El Dorado 71730	862-7661
ANES	Stevens, Willis M., Jr.	2200 W. Elm, El Dorado 71730	862-3828
OBG	Thibault, Frank G., Sr.	416 N. Newton, El Dorado 71730	862-5403
GS	Tommey, C. E.	412 N. Washington, El Dorado 71730	863-9453
OBG	Turnbow, R. L.	427 W. Oak, El Dorado 71730	863-6157
FP	Warren, George W.	P. O. Box W, Smackover 71762	725-3471
IM	Weedman, James B.	P. O. Box 1957, El Dorado 71730	862-5184
GS	Wharton, Joseph B., Jr.	516 W. Faulkner, El Dorado 71730	862-4221
IM	Wilson, Larkin M.	714 W. Faulkner, El Dorado 71730	862-5184
OPH	Wilson, Paul H.	514 W. Faulkner, El Dorado 71730	862-5352
GS	Yocum, David M., Jr.	412 N. Washington, El Dorado 71730	862-3411

Type of Practice	Member's Name	Address	Telephone Number
VAN BUREN COUNTY			
FP..	Hall, John A.....	P. O. Box 310, Clinton 72031.....	745-2111
FP..	McBryde, William C.....	P. O. Box 11, Fairfield Bay 72153.....	884-3399
FP..	Pearce, Charles G.....	P. O. Box 51, Clinton 72031.....	745-2412
RD..	Read, Paul S.....	Route 2, Box 277, Fairfield Bay 72153.....	884-3939
FP..	Stuteville, Orion H.....	P. O. Box 397, Leslie 72645.....	447-2711
RD..	Williams, John H.....	Address Unknown	
WASHINGTON COUNTY			
GS..	Ahrend, Thomas R.....	1749 N. College, Fayetteville 72701.....	521-3300
D.....	Albright, Spencer D., III.....	1925 Green Acres Rd., Fayetteville 72701.....	443-3413
FP..	Applegate, C. Stanley.....	220 Meadow Avenue, Springdale 72764.....	751-4637
RD..	Baggett, Jeff J.....	P. O. Box 233, Prairie Grove 72753.....	846-2155
FP..	Baker, Donald B.....	Doctors Bldg., Fayetteville 72701.....	521-8260
FP..	Box, Ivan H.....	P. O. Box E, Huntsville 72740.....	738-2115
PATH..	Boyce, John M.....	609 W. Maple, Springdale 72764.....	751-5711
RD..	Boyer, H. L.....	107 N. Star, Lincoln 72744 (Res.).....	824-3203
U.....	Brandon, H. B.....	1300 Zion Rd., Fayetteville 72701.....	521-8980
RD..	Brizzolara, Charles M.....	5512 S. Grandview Rd., Little Rock 72207 (Res.).....	666-5977
U.....	Brooks, Walter Ely.....	P. O. Box 1487, Fayetteville 72701.....	521-8980
P.....	Brown, Spencer H.....	4313 W. Markham, Little Rock 72205.....	666-0181
FP..	Buckley, Carrie D., Jr.....	241 W. Spring, Fayetteville 72701.....	521-8260
PD..	Burnside, Wade W.....	207 E. Dickson, Fayetteville 72701.....	443-3471
IM..	Butler, George H.....	675 Lollar Lane, Fayetteville 72701.....	521-8200
RD..	Butt, William J.....	P. O. Box 1147, Fayetteville 72701 (Res.).....	442-7563
FP..	Capps, James A., Jr.....	1215 S. Thompson, Springdale 72764.....	756-0610
ANES	Chester, Robert L.....	660 Lollar Lane, Fayetteville 72701.....	521-3050
GYN	Clark, LeMon.....	P. O. Box 4007, Fayetteville 72701.....	521-5903
OR..	Coker, Tom P.....	1673 N. College, Fayetteville 72701.....	521-2752
OBG	Cole, George R., Jr.....	740 Lollar Lane, Fayetteville 72701.....	521-4433
OTO	Crocker, Therman R.....	102 W. Dickson, Fayetteville 72701.....	521-1238
FP..	Day, John K.....	Student Health Services, U of A, Fayetteville 72701.....	575-4451
ANES	Dodson, Charles D.....	946 California, Fayetteville 72701.....	443-3387
GS..	Dorman, Jerry S.....	P. O. Box 689, Springdale 72764.....	756-6161
GP..	Dorman, John E.....	P. O. Box 689, Springdale 72764.....	756-6161
FP..	Dorman, John W.....	P. O. Box 689, Springdale 72764.....	756-6161
IM..	Duncan, Philip E.....	675 Lollar Lane, Fayetteville 72701.....	521-8200
P.....	Edmisten, Jack.....	P. O. Box 1108, Fayetteville 72701.....	521-1221
R.....	Edmondson, Charles T.....	Route 3, Box 253, Springdale 72764.....	751-0492
FP..	Etherington, Robert A.....	41 Kingshighway, Eureka Springs 72632.....	253-9746
NP..	Finch, Stephen B.....	617 W. Dickson, Fayetteville 72701.....	443-3491
OTO	Fincher, G. Glen.....	2100 Green Acres Rd., Fayetteville 72701.....	521-3363
FP..	Gardner, Buford M.....	P. O. Box 730, Fayetteville 72701.....	443-5291
D.....	Ginger, John D.....	1925 Green Acres, Fayetteville 72701.....	443-3413
IM..	Hall, Joe B.....	675 Lollar Lane, Fayetteville 72701.....	521-8200
OBG	Harrison, William F.....	207 E. Dickson, Fayetteville 72701.....	442-5377
FP..	Hart, Hamilton R.....	241 W. Spring, Fayetteville 72701.....	521-3600
RD..	Hathcock, Preston L.....	909 Hall Ave., Fayetteville 72701 (Res.).....	442-4424
D.....	Hayden, Carson R.....	Evelyn Hills Shopping Ctr., Fayetteville 72701.....	442-9211
PD..	Haynes, James E.....	207 E. Dickson, Fayetteville 72701.....	443-3471
OPH	Henry, L. Murphey.....	P. O. Box 1267, Fayetteville 72701.....	442-5227
OPH	Henry, Louise M.....	P. O. Box 1267, Fayetteville 72701.....	442-5227
OPH	Henry, Morriss M.....	P. O. Box 1767, Fayetteville 72701.....	442-5227
IM..	Higginbotham, Hugh B.....	675 Lollar Lane, Fayetteville 72701.....	521-8200
ANES	Horner, Glennon A.....	1665 N. College, Fayetteville 72701.....	521-3832
FP..	Huskins, James D.....	304 S. Maxwell, Siloam Springs 72761.....	524-3141
FP..	Hutchinson, Harry T.....	304 S. Maxwell, Siloam Springs 72761.....	524-3141
A.....	Hutson, Martha.....	2100 Green Acres Rd., Fayetteville 72701.....	521-3363
NP..	Jarvis, Fredrick D., Jr.....	P. O. Box 1185, Fayetteville 72701.....	442-5482
NS..	Johnson, Jorge H.....	1673 N. College, Fayetteville 72701.....	521-2752
FP..	Jones, Evelyn R.....	VA Hospital, Fayetteville 72701.....	443-2301
FP..	Jones, J. Laurence.....	Student Health Service, U of A, Fayetteville 72701.....	575-4451
OR..	Kaylor, Coy C.....	1673 N. College, Fayetteville 72701.....	521-2752
OR..	Kendrick, Carl M.....	1673 N. College, Fayetteville 72701.....	521-2752
A.....	Koehn, Laura J.....	2100 Green Acres Rd., Fayetteville 72701.....	521-3363
PD..	Lawson, Wilbur G.....	207 E. Dickson, Fayetteville 72701.....	443-3471
RD..	Lesh, Ruth E.....	356 N. Washington, Fayetteville 72701 (Res.).....	442-2163
RD..	Lesh, Vincent O.....	Route 6, Box 273, Rogers 72756 (Res.).....	636-6811
OBG	Lushbaugh, Harmon.....	740 Lollar Lane, Fayetteville 72701.....	521-4433
FP..	Martin, J. David.....	2100 Green Acres Rd., Fayetteville 72701.....	521-1662
OBG	Mashburn, James D.....	207 E. Dickson, Fayetteville 72701.....	442-5377
IM..	Moore, Arthur F.....	675 Lollar Lane, Fayetteville 72701.....	521-8200
OR..	Moore, James F.....	1673 N. College, Fayetteville 72701.....	521-2752
FP..	Moose, John I.....	304 S. Maxwell, Siloam Springs 72761.....	524-3141
FP..	Morgan, Tad M.....	Quandt and Young Sts., Springdale 72764.....	751-9236
GS..	Murry, J. Warren.....	1749 N. College, Fayetteville 72701.....	521-3300
OPH	McAllister, Max F.....	P. O. Box 1065, Fayetteville 72701.....	442-4011
FP..	McCollum, Robert H.....	102 W. Dickson, Fayetteville 72701.....	521-1114
FP..	McEvoy, Francis E.....	803 Quandt, Springdale 72764.....	751-9236
R.....	McKenzie, James G.....	P. O. Box 1286, Fayetteville 72701.....	442-8211
PATH	Nettelship, Mae B.....	P. O. Box 817, Fayetteville 72701.....	443-3050
IM..	Painter, Monroe B.....	675 Lollar Lane, Fayetteville 72701.....	521-8200
OPH	Parker, Joe C.....	700 S. Young St., Springdale 72764.....	751-1028
FP..	Parker, Lee B., Jr.....	241 W. Spring, Fayetteville 72701.....	521-8260
	Pascual, Fernando J.....	Champaign, Illinois	
FP..	Patrick, James K.....	241 W. Spring, Fayetteville 72701.....	521-8260
R.....	Platt, Michael R.....	1409 Camino Real, Springdale 72764.....	751-2388
FP..	Power, John R.....	220 Meadow Ave., Springdale 72764.....	751-4637
FP..	Puckett, Billy J.....	304 S. Maxwell, Siloam Springs 72761.....	524-3141
OBG	Rabon, Nancy A.....	Evelyn Hills Shopping Ctr., Fayetteville 72701.....	442-8261
R.....	Riddick, Earl B., Jr.....	1617 N. College, Fayetteville 72701.....	521-6480
GS..	Rolufs, Lloyd S.....	41 Kingshighway, Eureka Springs 72632.....	253-9746
OBG	Romaine, James C.....	740 Lollar Lane, Fayetteville 72701.....	521-4433
GS..	Rudko, Michael.....	908 Rolling Hills, Fayetteville 72701.....	521-6780
RD..	Siegel, Lawrence H.....	233 Oakwood, Fayetteville 72701 (Res.).....	442-2083
OPH	Singleton, E. Mitchell.....	P. O. Box 1343, Fayetteville 72701.....	521-4843
IM..	Sisco, Charles P.....	P. O. Box 65, Springdale 72764.....	751-4579
FP..	Sisco, Friedman.....	P. O. Box 65, Springdale 72764.....	751-4579
PATH	Slaven, John E.....	9600 W. 12th, Little Rock 72205.....	227-2000
FP..	Smith, Austin C.....	P. O. Box E, Huntsville 72740.....	738-2115
FP..	Steadman, Hunter M., Jr.....	41 Kingshighway, Eureka Springs 72632.....	253-9746
FP..	Stinnett, Charles H.....	304 S. Maxwell, Siloam Springs 72761.....	524-3141
U.....	Turley, Jan T.....	1300 Zion Rd., Fayetteville 72701.....	521-8980
RD..	Van Pelt, Ross.....	P. O. Box 126, Beaver 72613 (Res.).....	253-8546
FP..	Vinzant, John W.....	22 E. Spring, Fayetteville 72701.....	443-3417

Type of Practice	Member's Name	Address	Telephone Number
R.....	Ward, H. Wendell	101B Sunset Dr., Fayetteville 72701 (Res.)	442-2219
FP.....	Wheat, Ed.	130 N. Spring, Springdale 72764	751-5704
A.....	Whiteside, Edwin	P. O. Box 1208, Fayetteville 72701	442-9239
FP.....	Whiting, Tom D.	803 Quandt, Springdale 72764	751-9236
GS.....	Wood, Jack A.	1749 N. College, Fayetteville 72701	521-3300

WHITE COUNTY

FP.....	Adair, Thomas L.	P. O. Box 350, Bald Knob 72010	724-3220
R.....	Bell, John E.	1400 W. Pleasure, Searcy 72143	268-8500
FP.....	Bridges, Olen W.	607 Woodruff, Searcy 72143	268-5811
IM.....	Brown, Arnold R.	P. O. Box 1083, Searcy 72143	268-5364
FP.....	Dobbs, John C.	2900 Hawkins, Searcy 72143	268-5364
FP.....	Dodd, William C.	P. O. Box 149, Bald Knob 72010	724-3240
GP.....	Edwards, Hugh R.	601 Woodruff, Searcy 72143	268-5361
R.....	Elliott, Robert E.	1400 W. Pleasure, Searcy 72143	268-8500
GS.....	Farrar, Henry C.	2900 Hawkins, Searcy 72143	268-5364
FP.....	Formby, Thomas A.	2900 Hawkins, Searcy 72143	268-5364
	*Fox, Merle D.	Searcy	
O8G.....	Gardner, Jack R.	2900 Hawkins, Searcy 72143	268-5364
PATH.....	Golleher, James H.	P. O. Box 458, Searcy 72143	268-7186
RD.....	Hawkins, Martin C., Jr.	Highway 36 West, Route 3, Searcy 72143 (Res.)	268-2585
FP.....	Jackson, C. W.	P. O. Box C, Judsonia 72081	729-3435
IM.....	Johnson, David M.	2900 Hawkins, Searcy 72143	268-5364
FP.....	Kinley, J. Garrett	401 Center, Beebe 72012	882-3388
RD.....	Kinley, James D.	505 N. Main, Beebe 72012	882-5400
FP.....	Koch, C. W., Jr.	1407 E. Race, Searcy 72143	268-5845
	Loe, Arlis W.	Galveston, Texas	
	Lowery, Benjamin R.	Tampa, Florida	
FP.....	Maguire, Frank C., Jr.	P. O. Box 500, Augusta 72006	347-2131
R.....	McClain, Charles M., Jr.	154 S. 3rd, Batesville 72501	NF
FP.....	Norris, E. Lloyd	P. O. Box 640, Beebe 72012	882-3388
	Palmer, H. C., Jr.	Liberal, Kansas	
FP.....	Ransom, C. E., Jr.	1407 E. Race, Searcy 72143	268-5845
GS.....	Rodgers, Porter R., Jr.	910 E. Race, Searcy 72143	268-2441
FP.....	Ross, Rex W.	2900 Hawkins, Searcy 72143	268-5364
	*Sanford, Sloan M.	Searcy	
FP.....	Short, Harold	P. O. Box 340, Beebe 72012	882-5561
GS.....	Simpson, James A.	P. O. Box 156, Searcy 72143	268-2441
FP.....	Smith, Bernard C.	P. O. Drawer C, Bradford 72020	344-2788
PD.....	Stinnett, J. L., Jr.	2900 Hawkins, Searcy 72143	268-5364
FP.....	Tate, Sidney W.	P. O. Box N, Judsonia 72081	729-3435
IM.....	White, William D.	2900 Hawkins, Searcy 72143	268-5364

WOODRUFF COUNTY

FP.....	Hendrixson, B. E.	P. O. Box 171, McCrory 72101	731-5755
FP.....	Morris, John W.	118 W. Main, McCrory 72101	731-2631
FP.....	Rowe, James	P. O. Box 387, McCrory 72101	731-2511

YELL COUNTY

FP.....	Bull, L. J.	P. O. Box 217, Plainview 72857	272-4236
RD.....	Draeger, Louis A.	Highway 27 E., Danville 72833 (Res.)	495-2770
FP.....	Harbison, James D.	P. O. Drawer L, Dardanelle 72834	229-4172
FP.....	Harris, Walter P.	P. O. Box 487, Danville 72833	495-2714
FP.....	Luker, Jerome H.	P. O. Drawer L, Dardanelle 72834	229-4172
FP.....	Maupin, James L.	505 Union, Dardanelle 72834	229-4172
GP.....	Pennington, James O.	P. O. Box 68, Ola 72853	489-5241
FP.....	Ring, Gene D.	505 Union, Dardanelle 72834	229-4172

CODE FOR TYPE OF PRACTICE

A.....Allergy	HEMA.....Hematology	PDC.....Pediatric Cardiology
ADM.....Administrative Medicine	I.....Intern	PH.....Public Health
ANES.....Anesthesiology	IM.....Internal Medicine	PM.....Preventive Medicine
CD.....Cardiovascular Disease	N.....Neurology	PMR.....Physical Medicine-Rehabilitation
CP.....Child Psychiatry	NEPH.....Nephrology	PS.....Plastic Surgery
CR.....Colon and Rectal Surgery	NP.....Neuropsychiatry	R.....Radiology
D.....Dermatology	NS.....Neurosurgery	RD.....Retired
END.....Endocrinology	O8G.....Obstetrics and Gynecology	TS.....Thoracic Surgery
ENT.....Ear, Nose and Throat	OM.....Occupational Medicine	U.....Urology
EENT.....Eye, Ear, Nose and Throat	OPH.....Ophthalmology	+.....Resident
EM.....Emergency Care	OR.....Orthopedics	OS.....Other, i.e., physician designated
FP.....Family Practice	OTO.....Otolaryngology	a specialty other than those
GE.....Gastroenterology	P.....Psychiatry	appearing above
GP.....General Practice	PATH.....Pathology	#.....Senior Medical Student
GS.....General Surgery	PD.....Pediatrics	*—Deceased
GYN.....Gynecology	PDA.....Pediatric Allergy	NF—No Telephone

INFORMATION OF INTEREST TO MEMBERSHIP

Mailing Addresses

Arkansas Medical Society Post Office Box 1208 Fort Smith, Arkansas 72901 Phone: 782-8218	Arkansas State Medical Board Dr. Joe Verser, Secretary Post Office Box 102 Harrisburg, Arkansas 72432 Phone: 578-2677	Legal Counsel Mr. Eugene Warren Arkansas Medical Society Tower Building Little Rock, Arkansas 72201 Phone: 374-9292	Arkansas Healing Arts Board Mr. Arch Ford, Secretary State Department of Education Little Rock, Arkansas 72201 Phone: 371-1469 (Basic Science Examinations)
American Medical Association 535 North Dearborn Street Chicago, Illinois 60610 Phone: 312-751-6000	Drug Enforcement Administration 1 Union Plaza, #850 Little Rock, Arkansas 72201 Phone: 378-5265	Pulaski County Medical Society 311 Doctors Building Little Rock, Arkansas 72205 Phone: 664-3402	

Meeting Dates

Arkansas Medical Society	April 25-28, 1976	Arlington Hotel, Hot Springs
	April 24-27, 1977	Camelot Inn, Little Rock
American Medical Association	June 26-July 1, 1976	Dallas
	December 4-8, 1976	Philadelphia
	June 18-23, 1977	San Francisco
	House of Delegates	
	Interim Meeting	
	December 4-7, 1977	Chicago
	Winter Scientific	
	Meeting	
	December 10-13, 1977	Miami Beach

Arkansas Medical Society Group Insurance Plans

Professional Liability	The St. Paul Companies Little Rock Service Office 1700 Worthen Bank Building Little Rock, Arkansas 72201 Phone: 376-4151
Professional Overhead Expense Plan Professional Men's Disability Plan	Rather, Beyer and Harper Insurance Agents 300 Spring Building Little Rock, Arkansas 72201 Phone: 372-4117
Life	Northwestern National Life Insurance Company Arkansas State Agency 401 Commercial National Bank Building Little Rock, Arkansas 72201 Phone: 372-3181
Medical, Surgical, Major Medical	Arkansas Blue Cross-Blue Shield Post Office Box 2181 Little Rock, Arkansas 72203 Phone: 378-2320 (Medicare) 378-2133 (Dr. Mitchell) 378-2164 (Dr. Benafield)
Workmen's Compensation Dividend Plan	Dodson Insurance Group 92nd and State Line Kansas City, Missouri 64114 Phone: 816-361-3400

HEADQUARTERS STAFF

Executive Vice President	Mr. Paul C. Schaefer
Assistant Executive Vice President	Miss Leah Richmond
Assistant to the Executive Vice President	Mr. John McIntosh (Field Man—Public Relations)

COMMITTEE CHAIRMEN

Cancer Control: Charles R. Henry, 500 S. University, Little Rock 72205
 Medical Legislation: Elvin Shuffield, 110 Doctors Park Building, Little Rock 72205
 National Legislation: William S. Orr, Jr., 500 S. University, Little Rock 72205
 Public Health: Ben N. Saltzman, 4301 W. Markham, Little Rock 72201
 Maternal and Child Welfare: E. Stewart Allen, 1100 N. University, Little Rock 72207
 Tuberculosis: Donald Miller, 1515 W. 42nd, Pine Bluff 71601
 Aging: Gordon P. Oates, 701 W. Markham, Little Rock 72201
 Physical Fitness and School Health: Francis Buchanan, 500 S. University, Little Rock 72205
 Industrial Health: I. Leighton Millard, P. O. Box 5270, Little Rock 72205
 Mental Health: W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205
 Immunization: Charles E. Kemp, 505 E. Matthews, Jonesboro 72401
 Traffic Safety: Carl L. Williams, 522 S. 16th, Fort Smith 72901
 Liaison with Vocational Rehabilitation: John P. Wood, 907 Mena, Mena 71953
 Medical Education: Lee Parker, Jr., 241 W. Spring, Fayetteville 72701
 Hospitals: Art B. Martin, 1500 Dodson, Fort Smith 72901
 Public Relations: W. Ray Jouett, 750 Medical Towers Building, Little Rock 72205
 Liaison with the Auxiliary: Amail Chudy, 1801 Maple, North Little Rock 72114
 State Health and Medical Resources for Civil Defense: James T. Blackmon, 1008 Pine, Arkadelphia 71923
 Advisory to the Medical Assistants Society: W. Y. Springer, 901 W. Grand, Hot Springs 71901
 Veterans Administration Affairs: J. Warren Murry, 1749 N. College, Fayetteville 72701
 Insurance: Banks Blackwell, 1400 W. 43rd, Pine Bluff 71601
 Medicine and Religion: C. Randolph Ellis, 1004 S. Main, Malvern 72104
 Arrangements for Annual Session: Asa A. Crow, #1 Medical Dr., Paragould 72450
 Physician-Nurse Joint Practice: Robert Watson, 750 Medical Towers Building, Little Rock 72205
 Constitutional Revision: Lee Parker, Jr., 241 W. Spring, Fayetteville 72701
 Budget: H. W. Thomas, 105 N. Freeman, Dermott 71638
 Senior Medical Day: Ralph A. Downs, 500 S. University, Little Rock 72205
 Pharmacy: Willie R. Harris, P. O. Box 40, England 72046
 Arkansas State Advisory to the Selective Service System: L. A. Whittaker, Jr., 708 Lexington, Fort Smith 72901
 Student AMA Liaison: Alfred Kahn, Jr., 1300 W. 6th, Little Rock 72201
 Medical School: Ross Fowler, 217 W. Stephenson, Harrison 72601
 Private Insurance Review: Robert McCrary, 505 W. Grand, Hot Springs 71901
 Medicaid Underutilization: Art Martin, 1500 Dodson, Fort Smith 72901
 Professional Relations: Richard M. Logue, 601 N. University, Little Rock 72205
 Medical Services Review: Charles F. Wilkins, Jr., 3005 W. Main Place, Russellville 72801

January, 1976

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Vol. 72 No. 8

FORT SMITH, ARKANSAS

100th ANNUAL SESSION
ARKANSAS MEDICAL SOCIETY
ARLINGTON HOTEL, HOT SPRINGS, APRIL 25-28, 1976

BECOTIN®
Vitamin B Complex

BECOTIN® with VITAMIN C
Vitamin B Complex with Vitamin C

BECOTIN®-T
Vitamin B Complex with Vitamin C, Therapeutic

MI-CEBRIN®
Vitamins-Minerals

MI-CEBRIN T®
Vitamin-Minerals Therapeutic

AND A WIDE VARIETY OF OTHER PHARMACEUTICALS



DISTA PRODUCTS COMPANY
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

LIBRARY
U.C. SAN FRANCISCO
FEB 4 1976

Both often



- Predominant psychoneurotic anxiety

- Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent

in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium[®]
(diazepam) [Ⓢ]

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over-sedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Owned by
THE ARKANSAS MEDICAL SOCIETY
And Published Under Direction of the Council

ALFRED KAHN, JR., M.D., Editor
1300 West Sixth Street Little Rock, Arkansas

MR. PAUL C. SCHAEFER, Business Manager
214 North 12th Street Fort Smith, Arkansas

LITTLE ROCK BUSINESS OFFICE
114 E. Second St. Little Rock, Arkansas

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY

T. E. TOWNSEND, President	Pine Bluff
A. S. KOENIG, JR., President-Elect	Fort Smith
ASA A. CROW, First Vice President	Paragould
MAHLON O. MARIS, Second Vice President	Harrison
DONALD L. DUNCAN, Third Vice President	Texarkana
ELVIN SHUFFIELD, Secretary	Little Rock
KENNETH R. DUZAN, Treasurer	El Dorado
AMAIL CHUDY, Speaker,	
House of Delegates	North Little Rock
CHARLES F. WILKINS, JR., Vice Speaker,	
House of Delegates	Russellville
ALFRED KAHN, JR., Journal Editor	Little Rock
C. C. LONG, Delegate to AMA	Fort Smith
PURCELL SMITH, Delegate to AMA	Little Rock
JOE VERSER, Alternate Delegate to AMA	Harrisburg
T. E. TOWNSEND, Alternate Delegate to AMA	Pine Bluff
MR. PAUL C. SCHAEFER, Executive Vice-President,	
P. O. Box 1208	Fort Smith

COUNCILORS

First District	JOHN B. KIRKLEY	Jonesboro
Second District	*ELDON FAIRLEY	Osceola
	JOHN E. BELL	Searcy
	*PAUL GRAY	Batesville
Third District	*L. J. P. BELL	Helena
	FRED C. INMAN, JR.	Carlisle
Fourth District	JOHN P. BURGE	Lake Village
	*RAYMOND IRWIN	Pine Bluff
Fifth District	*J. B. JAMESON, JR.	Camden
	JOHN H. MOORE	El Dorado
Sixth District	*C. LYNN HARRIS	Hope
	A. E. ANDREWS	Texarkana
Seventh District	*ROBERT F. McCRARY	Hot Springs
	CURTIS CLARK	Sheridan
Eighth District	WILLIAM S. ORR, JR.	Little Rock
	*W. PAYTON KOLB	Little Rock
Ninth District	*HENRY V. KIRBY	Harrison
	MORRIS M. HENRY	Fayetteville
Tenth District	KEMAL KUTAIT	Fort Smith
	*C. C. LONG	Fort Smith

*Senior Councilor

The Advertising policy of this JOURNAL is governed by the PRINCIPLES OF ADVERTISING of the State Medical Journal Advertising Bureau, Inc., by the Advertising Committee of the Bureau and by the Council of the Arkansas Medical Society.

EXCLUSIVE PUBLICATION—Articles are accepted for publication on the condition that they are contributed solely to this JOURNAL.

COPYRIGHT 1976—By the JOURNAL of the Arkansas Medical Society.

NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

SCIENTIFIC ARTICLES

Treatment of Evolving Strokes	323
<i>R. Lewis Crow, M.D.</i>	
Getting Family Physicians Into Rural Communities	327
<i>Ben N. Saltzman, M.D.</i>	
Pulmonary Embolism Prophylaxis In The Orthopaedic and Trauma Patient	330
<i>Chris E. Wiggins, M.D.</i>	
The Better Half: A Half Century of Auxiliary Service	333
<i>Helen (Mrs. Frank T.) Padberg</i>	

FEATURES

EKG of the Month	338
<i>Malcolm B. Pearce, M.D.</i>	
Office Orthopaedics: "The Scotty Dog and His Collar"	339
<i>Leighton Millard, M.D.</i>	
Toxicology Update: "Management of the Acutely Poisoned Patient, Part I. Induced Emesis"	341
<i>A. Nelson Voldeng, Ph.D.</i>	
Arkansas Public Health At a Glance, "Problems In Care of the Medically Indigent East Arkansas Cancer Patient"	343
<i>E. J. Easley, M.D. and R. C. Steinkamp, M.D.</i>	
Resolutions	344
Editorial: "Tumors and Immunity"	346
<i>Alfred Kahn, Jr., M.D.</i>	
Medicine in the News	347
Things to Come	351
Obituary	352
Personal and News Items	353
New Members	354
Book Review of Current Therapy of Allergy	356
<i>Vida H. Gordon, M.D.</i>	

Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72901. Published monthly under direction of the Council, Arkansas Medical Society, Volume 72, No. 8. Subscription \$2.00 a year. Single copies 50 cents. Entered as second class matter, May 1, 1955, in the post office at Little Rock, Arkansas, under the Act of Congress of March, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 1, 1918. Second-class postage paid at Little Rock, Arkansas.

Treatment of Evolving Strokes

R. Lewis Crow, M.D.*

The majority of cerebrovascular accidents are due to arteriosclerotic occlusions in the intracranial cerebral circulation. A lesser number, variously estimated at between 15 and 40 percent, occur because of an occlusion of an extracranial cerebral vessel. Most CVA's evolve over a brief period and will be completed by the time the patient is seen by a physician. The treatment in these patients is medical, regardless of the site of occlusion causing the stroke. In a smaller percentage of patients, however, the cerebrovascular accident will evolve much slower. The progressive lateralizing neurologic deterioration will occur over a period of hours or even days before the stroke is completed. Although the incidence has not been accurately determined, it is probable that in over 50 percent of these patients the offending atherosclerotic process is located in the extracranial portion of the arteries supplying the brain, and is therefore correctable. The purpose of this publication is to review the indications for early surgical treatment in progressive strokes, and to show that this form of treatment has had beneficial results in our small series of patients.

The majority of patients with cerebrovascular insufficiency that are referred for evaluation have some form of transient ischemic episodes. These range from intermittent dizziness to intermittent numbness and disuse of extremities. Visual and speech symptoms may also occur. When a nonreferred bruit is present in the neck or supraclavicular area, these patients are candidates for arteriography to determine whether or not a high grade stenosis is present in the carotid or vertebral arteries. The patients who were surgically treated for progressive strokes all gave a history of transient ischemic attacks, and all

had bruits over the carotid bifurcation area in the neck.

In the elective patient the evaluation arteriograms and the corrective surgery both carry a low risk. I have performed bilateral carotid or four vessel arteriograms in over 300 patients. There have been no deaths or significant complications. The direct artery puncture method has been used, and all were done under general anesthesia. A total of 96 separate operative procedures were required. There was one death, and it occurred 10 days postoperatively from a myocardial infarction. There have been no permanent postoperative neurologic deficits encountered in this elective group.

In patients with progressing cerebrovascular accidents the potential risk of arteriography is certainly greater because of the natural course of the disease. This is especially true if the symptoms are due to a cerebral vessel occlusion. The course of the disease will not be appreciably altered by a properly performed arteriogram, and the patient's neurologic status may well continue its deterioration during the study. Thus far in my experience, however, this has not occurred. Each of the patients who presented with a progressive stroke, and who were suspected of having an extracranial lesion by virtue of a carotid bruit, were proven arteriographically to have an extremely high grade occlusion of the proximal segment of the internal carotid artery. The patient was then taken directly to surgery, the operating room having been prepared while the arteriogram was being performed.

Six patients were surgically treated for progressive strokes between August 1970 and July 1973. The shortest length of follow-up is 28 months. I have not had an occasion to operate on an evolving stroke since that time, so these

*Suite 600, Medical Towers Building, 9601 Lile Drive, Little Rock, Arkansas 72205.

six patients represent my personal experience in the surgical treatment of this disease process. Several patients are sketchily presented as they are clinically fairly typical of the progressive stroke, and each presented a slightly different facet of the disease from a technical standpoint.

1. E. A. is a 68-year-old white male. In August 1970, he developed progressive weakness of his right arm, mental confusion, and an incomplete aphasia. Intermittent dizziness had occurred several days prior to onset. A left carotid bruit was present. Intravenous Papaverine did not alter the slowly progressive course of his neurologic deterioration. Approximately 24 hours after onset of symptoms, bilateral carotid arteriograms were performed. A complete occlusion of the left internal carotid artery, and a high grade stenosis of the external carotid was present. Extensive collateral circulation from the external carotid was present around the orbit. The intracranial portion of the internal carotid was being filled from this collateral network by retrograde flow through the ophthalmic artery. The right carotid injection showed a mildly diseased carotid, but more importantly that there was no cross filling intracranially through the Circle of Willis. Clinically and radiographically the left cerebral hemisphere was dependent on flow through the severely stenosed left external carotid. Endarterectomy and patch angioplasty on the distal common and proximal external carotid arteries restored normal flow to this collateral network. Post-operatively there was complete return of function to the right arm, speech was normal, and mental confusion cleared. Three weeks later he returned to work. There has been no recurrence of cerebrovascular symptoms during the five year follow-up period.

2. H. M. is a 69-year-old white male. Sudden onset of numbness and disuse of the right arm and leg occurred in December 1971. Slurring of speech was an associated symptom. Intermittent dizziness had been present for several months, but had been attributed to high blood pressure. The symptoms, which were mild at onset, progressed during the next three hours. When examined in the office he could walk only with assistance and was dragging his right leg. He could move his right arm, but not well enough to shake hands. Sensation in the hand

was present but markedly decreased. A bruit was present over the left carotid artery. The patient was taken directly to the operating suite where he received intravenous Papaverine while an operating room was prepared. No improvement in his neurologic status had occurred when taken into the operating room. After institution of general endotracheal anesthesia, a left carotid arteriogram was done. The study revealed the almost complete occlusion of the proximal left internal carotid artery. Endarterectomy and patch angioplasty of the atherosclerotic segment of distal common and proximal internal carotid restored normal cerebral blood flow. At completion of surgery the neurologic deficit had cleared completely. Prior to discharge, arteriograms were done to determine the patency of the other three extracranial cerebral vessels, and they were without significant stenotic lesions. He returned to his farming and has had no recurrence of cerebrovascular symptoms during the four years since surgery.

3. Mrs. C. R. is an 80-year-old physician's mother who was hospitalized in July 1972. Transient episodes of numbness of the right arm and hand had been present for eight months. Intermittent dizziness was also a symptom. Oral vasodilators had decreased the frequency of the episodes. On the day of admission a similar episode occurred involving numbness of the right arm and hand. Instead of lasting only a few minutes, the numbness and disuse grew progressively more severe. When admitted, approximately three hours after onset, diminished motor and sensory function was present in the involved right arm and leg. She was unable to stand or use her hand. Some arm and finger motion was present, however. A high pitched bruit over the left carotid and a softer right carotid bruit were present. Bilateral carotid arteriograms were immediately performed while the operating room was being set up. A high grade stenosis of the proximal left internal carotid was present. She was taken directly to surgery. A linear arteriotomy in the distal common and proximal internal carotid artery was made. It was then obvious that in addition to the high grade atheromatous obstruction there was ulceration of the plaque with localized thrombus formation. The organized thrombus

appeared to be totally occluding the vessel lumen. There was no distal extension of the thrombus and it appeared to be intact. Following endarterectomy and patch angioplasty the symptoms and neurologic findings cleared completely. One and a half years later I resected an abdominal aortic aneurysm which had become tender and was causing back pain. At the present time she has occasional episodes of orthostatic dizziness which are not severe. She is otherwise doing very well and is reasonably active for her age.

The other three patients with evolving strokes had clinical presentations similar to the three described above. In each case the progressive stroke was abated by emergency arteriograms and surgical restoration of cerebral flow. Complete return of function and absence of recurrent symptoms has been present. The last patient to be briefly presented was operated on for an acute but completed stroke.

It is now well recognized that revascularization procedures are contraindicated in the recently completed stroke. Some effort was made ten years ago in Houston to clean out these completely occluded vessels when the occlusion was recent. Hemorrhage into the infarcted area occurred following restoration of normal intracranial blood flow with rapid deterioration of the patient in many cases. For this reason it has become well established that the completed stroke is a medical problem rather than a surgical one. Every rule has its exceptions, however, and the following patient is presented as such an exception to good medical management.

4. J. H. is a 73-year-old white male. Hospitalization due to severe aorto-iliac occlusive disease was in August 1970. History revealed episodes of cerebrovascular insufficiency which consisted of dizziness and numbness of his right arm. An elective lumbar aortogram and bilateral carotid arteriograms were performed. In addition to distal aortic occlusion, the studies showed an extremely high grade stenosis of the proximal left internal carotid artery. The right carotid was relatively normal, and there was no cross filling intracranially. The study took approximately thirty minutes and was completed by 10:00 a.m. Carotid endarterectomy was scheduled for the following day. At 8:00

p.m. that evening a stroke occurred, and within minutes a right hemiplegia and complete aphasia was present. He was taken to surgery as soon as an operating room could be prepared. The extremely tight stenosis over a two cm. segment of proximal internal carotid was present as visualized on the arteriogram. Above this area was fresh thrombus which extended cephalad. The thrombus was removed and back bleeding established. Endarterectomy and patch angioplasty were performed. The site of needle puncture of the common carotid for the arteriogram was carefully inspected and was normal. There had been no intimal damage or dissection. The stroke, therefore, was a result of his atherosclerotic occlusion and not a result of the arteriogram. Postoperatively he was much improved, but definite residual was present. By the time of discharge he could walk without help and could use his right hand well enough to eat. At the present time he continues to have mild difficulty with the right arm and leg, and still slurs his words noticeably.

Obviously, at the onset of a stroke, no one can predict the eventual outcome. Because of the great frequency of multiple lesions, and because of wide anatomical variations in collateral blood flow, patients show greater or lesser neurologic deficits with similar vessel occlusions. It has been my experience, however, that once a neurologic deficit occurs and progresses, it is a rare patient that is discharged without significant residual. I feel, therefore, that when a patient is seen with an evolving or progressing stroke, the physical examination should include auscultation for a bruit over the carotid artery. When these criteria are present the possibility of the occlusive process being in the extracranial portion of the carotid artery is high. Arteriograms should be done immediately to rule in or out a correctable lesion.

I have had several patients referred to me with a diagnosis of prolonged transient ischemic attack that completed their stroke prior to arrival. In these patients there is no indication for adding the risk of arteriography since they are not surgical candidates. I have also seen two or three patients with progressing cerebrovascular accidents that, for one reason or another, we treated with intravenous Papaverine

and steroids. I have been most unimpressed with this form of treatment in the evolving stroke. Completion of the stroke occurred in each case.

Since this review was completed, I have operated on one additional patient with an evolving stroke. He also fits the criteria of a progressive neurological deficit and a carotid bruit. An added feature was a completely occluded right common carotid artery which had caused a stroke three years before. Arteriograms, followed immediately by carotid endarterectomy, reversed the neurological deficit. By the time of discharge four days later, he had completely regained normal function of the right arm and

hand.

Although this series is small, I feel quite sure that the patients benefitted dramatically from the emergency procedure. That all six of the patients operated on for evolving strokes completely recovered and have remained free of significant cerebrovascular symptoms is a definite improvement over the probable natural course of their illness. They are certainly not cured of their atherosclerotic diathesis. From a palliative standpoint, however, the segmental occlusive lesion was removed, and normal blood flow established to the ischemic area with return of normal function.



Getting Family Physicians into Rural Communities^{*}

Ben N. Saltzman, M.D.^{**}

I have been interested in the problems of rural health for twenty-nine years. This interest began first as a general practitioner in the rural community of Mountain Home in the foothills of the Ozark Mountains in northern Arkansas. It developed when I became chairman of the Committee on Rural Health of the Arkansas Medical Society and became more refined when I became a member of the Council on Rural Health of the American Medical Association. From the beginning, the same question was asked me over and over again, "How do we get doctors to practice in small towns?" In fact, this question is still number one on the minds of community leaders, interested citizens, prospective patients and the medical profession.

It has become so important a question that it is number one in the minds of the legislators of our country, local, state and national. Everywhere you hear possible solutions. Manufacture more doctors. Redistribute the doctors we already have. Develop other types of health care professionals. These are all good suggestions, but they do not meet with approval everywhere. Also, they will take time to develop. There is a great need right now. Our older physicians are retiring or expiring. Malpractice insurance problems are increasing the attrition rate. Anticipation of some form of National Health Insurance is causing many of us to throw up our hands in expression of the futility of it all. We know that something must be done. The questions are what and how?

Arkansas has long known that the physicians most likely to practice in rural communities are the general practitioners. Actually Arkansas' general practitioner rate is higher than in most states. Dr. Thomas A. Bruce, the new Dean of the University of Arkansas School of Medicine, has compiled some interesting information. Arkansas is admitting 120 new medical students. In two years the Freshman class will hold 170 students annually. Contrary to popular belief, pre-med students with C averages become super

specialists; those with A averages become family doctors. We've got a lot of smart family doctors. We have 210 residents this year. The number is increasing annually. Teaching and clinical facilities are strained. We have become very selective. The lowest grade point average for admission this year is 3.5 out of a possible 4.0.

The Arkansas State Legislature enacted a program in 1949 for the expressed purpose of increasing the number of physicians practicing in rural communities in the State. This was to be accomplished by providing educational assistance to medical students in need of financial aid to complete their program of study and who have expressed an interest in practicing medicine in a rural community. The act was amended in 1971 to extend and strengthen the provisions of the program for the purpose of assisting greater numbers of students.

Although I was aware of the program for many years, I did not learn about its actual operation until this fiscal year. The act designated a Board composed of the Dean of the School of Medicine as Chairman; the Vice-President for Health Sciences; one representative of the School of Medicine named by the Dean; the President of the Arkansas Medical Society as Vice-Chairman; and two physicians named by him. As President of the Society this year, I found that our responsibility included the determining the eligibility of applicants; naming the recipients of such assistance; setting the amounts of loans and generally taking administrative responsibility.

The program had a slow start as many legislative programs do. There were no funds allotted until 1956. In 1953-54 the University of Arkansas Medical Center assisted six students from its direct operating fund. For the period 1957 through 1969 sums varying from \$2,600 per year to \$3,500 were made available to assist students. It was not until the spring of 1971 when the Act was amended to strengthen the provisions of the program that funds were made available in an amount to sustain interest in rural practice to develop the full potential of the Arkansas Rural Medical Practice Student Loan and Scholarship Program.

^{*}Presented to a Joint Meeting of the American Medical Association's Council on Rural Health and State Medical Associations' Rural Health Committee Chairmen at the National Conference on Rural Health, Roanoke, Virginia, March 19, 1975.

^{**}Chairman, Department of Family and Community Medicine, University of Arkansas College of Medicine, and Immediate Past President, Arkansas Medical Society, Little Rock, Arkansas.

Eligibility requirements are simple. Any resident of Arkansas who has been accepted to or enrolled in the University of Arkansas School of Medicine in a program leading to the degree Doctor of Medicine; who is of good moral character; in good standing in the school; in need of financial assistance to complete his program of study; and intends to practice medicine in a rural community in Arkansas of a population less than 5,000 is eligible to receive assistance.

From September 1953 through July 1954, one hundred and forty-six students have been assisted by this program. Until 1971 no more than nine students were assisted in any year. From that time, twenty-eight received help in 1972; thirty-six in 1973; and sixty-one in 1974. Graduates are committed to serve in a rural community for one year for each year of the loan. If accomplished, the loan is forgiven. If this is not accomplished, the loan is repayable at the current rate of interest. Approximately \$252,000 is required annually to maintain the current level of interests. Some sixty students each year will request assistance at an average loan of \$4,200.00.

Of the total of one hundred seventy-five borrowers, seventy-nine are in active practice. The rest are recent graduates who are in internship or residency programs or are meeting military obligations. Of the seventy-nine, sixty-six are practicing in the State and thirteen are practicing in other states. Thirty-four are practicing in qualifying Arkansas rural communities, and forty-five are not. Present trends would indicate that the number practicing in rural communities will be larger in future years. The collection rates from those that have defaulted have been excellent.

"It's been hard to even locate some young doctors to talk to," said a businessman from a small town a few days ago, as he came by the Medical Center on a recruiting trip. This was a quotation from a statement made by Dean Bruce. Out of this discussion, a plan developed that established an annual Physician's Opportunity Fair. Wednesday, October 23rd, 1974, was the day set aside for representatives from the towns in Arkansas that were seeking doctors to get together with medical students, interns and resident physicians who were looking for practice opportunities. Booth spaces and tables were

set up for community representatives who displayed photographs, products, slide presentations, movies and brochures. Thirty-six communities represented by mayors, chamber of commerce officials, sheriffs, state representatives and senators, hospital and clinic administrators, physicians and just plain townfolks gathered in the Student Union Building and talked to students and residents for a whole day. Practically the entire Medical Center showed up. Even the faculty and Deans of the Schools of Medicine, Pharmacy and Nursing were present. Coffee and doughnuts were served and everyone had a marvelous time. The Medical School made no attempt to place its graduates. Participants were asked not to discuss financial arrangements. The purpose of the Fair was simply to open up avenues for dialogue between the interested parties.

The Fair was a huge success. It served to establish rapport between community leaders and the Medical Center. It served to diminish the ivory tower aspects of medical education by bringing the students and faculty together with the citizens of the State on the same level. Most of the people present realized that there would be no immediate influx of physicians into rural communities, but they also realized that they could talk and plan together.

The Arkansas Medical Society had operated a year-round placement service for years, and was represented at the Fair, but the contact had never before been this close.

To introduce the purpose of the Fair, a short plenary session was held in the Medical Center auditorium. The place was packed. The Dean, the Vice-President, Dr. James L. Dennis, a medical student's wife, and a staff representative from the Arkansas Medical Society spoke. I also spoke, representing both the Medical Society as its president and the Department of Family and Community Medicine at the Medical Center. My topic was, "Why I Chose a Small Town and Stayed for More Than 28 Years." In the talk, I outlined some of the pitfalls and many of the benefits of small community practice. It was the consensus of those queried that this should be an annual event; and it will be.

The University of Arkansas Medical Center is striving manfully to increase health man-

power, particularly in the rural areas of the State of Arkansas. The greatest need is for additional family physicians who are oriented toward establishing their practices in the shortage areas. Towards this end, the Area Health Education Centers Program is being developed. Three communities, away from the Medical Center have established AHEC programs. Five more are planned. Family Practice residencies will begin in two communities this year. By utilizing the hospital and professional resources of the several AHEC communities as they are best suited for training purposes, it is projected that when all family practice residency training programs are in full operation, the annual graduates will total 34. The University program will graduate 20 annually. Together, 54 residents will be going into Family Practice annually. Hopefully, they will be selecting communities that relate to the rural populations of the State.

Basically, the AHEC program consists of an ambulatory teaching center as the facility providing the major focus and orientation toward primary medical care for a family practice residency program. This is really a group practice clinic staffed by the residents and faculty of the program. Within the center, each resident accumulates a practice of patients and families for whom he provides services under faculty supervision. It is believed that upon completion of the program, the resident will tend to remain in the AHEC area and start his practice there, probably in association with other residents in the program. He will already have a ready-made following.

Medical students, too, will have the opportunity of utilizing the elective periods of the senior year in the AHEC program. In three communities this is already taking place. It is safe to assume that these students will seek residency programs in the AHECs. Each AHEC can handle three to four students during an elective six-week period. The AHECs include residents in certain other specialties who rotate from the Medical Center, thus accomplishing a better distribution of physicians throughout the State. These residents will become better acquainted

with the practicing physicians and hospitals encouraging many of them to locate away from the metropolitan area.

The Medical Center has an ongoing Continuing Education program which enables consultants to fly to all areas in the State, to confer with the practicing physicians and to furnish a certain amount of teaching. This serves to lessen the feeling of isolation that has existed in the rural areas in the past.

All of these programs have tended to encourage physicians to practice in many of the small communities of our State. Arkansas is basically a rural state. Little Rock is the only community with a population of more than 100,000 people. Yet the State's population is approximately 2,000,000 people. This means that there are a large number of small communities to be served. Providing residency training for most of the graduates will enable us to keep most of the physicians in the State. Providing continuing education in the rural areas will make them feel that they still belong. Developing primary physicians, chiefly family physicians, will provide the people of the State with well rounded, comprehensive care. Acquaintance with the resources available will make it possible to make proper referrals. Encouraging the communities to upgrade themselves will help increase the attractiveness of rural practice. Communication between communities and future physicians will form the basis for future matching.

I could go on for some time explaining the things we are doing and trying to do. I am sure that all of you have had similar experiences. We recognize that the problem still exists. That is why we are here. We must not give up trying. We must expend every effort to get physicians into our rural communities. Caleb Colton, an English clergyman in the late 1700s once said, "That which we acquire with most difficulty we retain the longest; as those who have earned a fortune are commonly more careful of it than those by whom it may have been inherited." We all recognize that acquiring physicians in small communities is difficult; but keeping them; there is the real task.



Pulmonary Embolism Prophylaxis in the Orthopaedic and Trauma Patient**

Chris E. Wiggins, M.D.*

Incidence

The problem of pulmonary embolism has long been recognized but only in recent years has the high incidence in orthopaedic and trauma patients been appreciated and attempts made to prevent thromboembolic disease. The development of sensitive research techniques, such as venograms and ¹²⁵I-fibrinogen, have demonstrated that in certain categories of patients deep vein thrombosis and pulmonary embolism are the rule rather than the exception.

The following table, compiled from literature, illustrates the approximate incidence of thromboembolic disease in patients with pelvic trauma or surgical procedures on the hip and lower limbs.^{2, 3, 4, 5, 9}

Deep Vein Thrombosis	30-60%
(determined by fibrinogen scans and/or venograms)	
Deep Vein Thrombosis	15-30%
(determined by clinical examination)	
Pulmonary Embolism	10%
Fatal Pulmonary Embolism	1-3%

Of special importance is that half the cases of deep vein thrombosis are clinically silent, and since individuals who exhibit the proper symptomatology are appropriately treated, it is the asymptomatic patient who is at risk for sudden death. Coventry³ found a mortality of 3.4% due to pulmonary embolism in patients undergoing total hip arthroplasty. Yet the highest incidence of pulmonary embolism in orthopaedic patients occurs in those with hip fractures. In spite of these statistics a recent survey demonstrated that about half of orthopaedic surgeons do not routinely use antithrombotic agents for patients undergoing elective or emergency hip surgery.¹²

Prophylaxis

Clearly, a mortality rate which may approach four percent is less than desirable for any elective surgical procedure. This has stimulated a multitude of investigations on pulmonary embolism prophylaxis. Unfortunately, many of these studies have been contradictory and no firm conclusions have been reached, particularly regarding the use of the newer agents such as dextran and aspirin.

Salzman¹⁰ studied patients undergoing mold arthroplasty of the hip and found a two-thirds decrease in the thromboembolism rate with warfarin, dextran, or aspirin as compared to the untreated controls, without an increase in bleeding complications. Mendes⁸ likewise found a significant prophylactic effect with warfarin and dextran in patients undergoing total hip replacement, but he also noted an increased rate of bleeding complications with warfarin. Others^{2, 3, 7} as well, found warfarin or dextran to be of benefit in protecting patients from thromboembolic disease.

The opposite conclusion has been reached by some investigators^{9, 14} who have detected no significant difference with the use of these agents. But one factor, which could influence the results is whether the prophylactic agent was given pre- or postoperatively. Flanc,⁶ using ¹²⁵I-labeled fibrinogen, demonstrated deep vein thrombosis developing soon after surgery in 35% of patients undergoing various general surgical procedures. Indeed, in half it occurred in the operating room.

The most definitive study to date comparing the effects of various antithrombotic agents is by Harris, Salzman, and associates⁷ who found no significant difference between the effects of warfarin, dextran, and aspirin on the number of patients who developed fresh thrombi after total hip replacement. However, warfarin and dextran were superior to aspirin in reducing

*Resident, Department of Orthopaedic Surgery, University of Arkansas College of Medicine, Little Rock, Arkansas.

**Presented in part at the Fall Meeting of the Arkansas Orthopaedic Society, Hot Springs, Arkansas, November 2, 1974.

the number of thrombi formed. Warfarin, dextran and aspirin were superior to heparin in preventing thrombi. Fewer bleeding complications occurred with aspirin than with warfarin. The use of subcutaneous heparin was discontinued because of a high rate of deep vein thrombosis when given every twelve hours and frequent bleeding complications when the frequency of administration was decreased to every eight hours.

Prophylaxis

The agents useful in prophylaxis fall into two categories: the anticoagulants, i.e. heparin and warfarin, and the antiplatelet agents such as dextran and aspirin.

Heparin:

There is general agreement that heparin is the drug of choice for treatment of acute pulmonary embolism. Since heparin can increase bleeding in acutely traumatized or postoperative patients, its use has been limited in this regard. Several studies have been performed using low dose subcutaneous heparin (e.g. 5000 units every eight to twelve hours) but there is a lack of conclusive evidence that it is an effective prophylactic agent.

Warfarin (Coumadin):

It is now widely accepted that oral anticoagulants are effective in preventing pulmonary embolism if given in adequate dosage (i.e. sufficient to maintain prothrombin time two to two and one-half times normal). Serious bleeding complications have followed the use of warfarin, and paralleling this, there has been an increased wound infection rate resulting from wound hematomas. Additionally, warfarin is difficult to manage and frequent blood tests are required to assess the degree of anticoagulation. Some investigators have reported no associated increase in bleeding complications possibly reflecting strict attention to the level of anticoagulation. The difficulty in managing a warfarinized patient may explain why the entire subject of pulmonary embolism prophylaxis has met with a lack of enthusiasm in the United States.

Dextran:

This drug is a glucose polymer produced by bacterial action. It is currently available in preparations having average molecular weights of 40,000 and 70,000. Dextran-40 (Rheomacrodex) is a "low molecular weight" dextran

preparation. It has been demonstrated that there is not a significant difference in antithrombotic properties between the two preparations, but dextran-70 has been associated with more instances of anaphylaxis and pulmonary edema. Both types of dextran can infrequently cause renal failure, usually in a dehydrated or azotemic patient. Seventy percent of dextran-40 is excreted within 24 hours of infusion so the effect is of a cumulative nature.¹ Because of the osmotic effect, the plasma volume is initially expanded by one to two times the volume of dextran-40 infused which may produce congestive heart failure in a borderline compensated patient. The hematocrit seldom falls more than five percent for a 500 ml. infusion. The mechanism of action is not fully understood, but dextran is said to coat endothelial walls and erythrocyte membranes, decrease platelet adhesiveness, and improve microcapillary flow. Postoperative patients have transient increases in platelet adhesiveness and fibrinogen level, but dextran-treated individuals have a decrease in these values.² The disadvantages of dextran are its relative expense and the necessity for intravenous administration. Dextran potentiates the effect of anticoagulants and should probably not be used with them.

Aspirin:

This agent presumably functions by inhibiting platelet aggregation. The dosage has not yet been standardized but ten grains given two to four times a day has been employed.

Physical Measures:

The standard physical measures to prevent deep vein thrombosis should not be neglected despite use of an antithrombotic drug. Elevation of the lower limbs, use of elastic surgical support stockings, calf pumping exercises, and early ambulation are relatively simple, without side effects, and effective. In one group of general surgery patients these measures alone, without specific antithrombotic drugs, diminished the thromboembolism rate from 30% to zero.¹³

Current Regimen at the University of Arkansas Medical Center Orthopaedic Department

Patients with either hip fractures or those undergoing total hip or knee arthroplasty are fitted with elastic surgical stockings after arrival on the ward. These are worn continuously

until discharge, including the time the patient is in the operating room, except when the stockings interfere with the operative procedure. Dextran-40 is utilized, if not specifically contraindicated, at a rate of 500 ml. infused daily over a 12 hour period. Dextran infusion is begun either the night before surgery or the morning of surgery in order to achieve an adequate circulating level of dextran prior to induction of anesthesia. All other patients with injuries to the lower limbs are given ten grains of aspirin twice daily if they have no history of gastrointestinal intolerance, ulcer disease, or allergy to aspirin. Postoperatively the patients are instructed to perform calf pumping exercises five minutes every waking hour and are reminded of this during daily rounds. Early aided walking is employed as much as practicable, and dextran or aspirin is discontinued when walking with crutches is achieved.

Summary

1. A high mortality rate from pulmonary embolism occurs in trauma patients and those undergoing surgical procedures on the lower limb, particularly the hip.

2. The physical methods designed to prevent pooling of blood in the lower limbs, such as elevation, elastic stockings, calf pumping exercises, and early ambulation are basic to any regimen for preventing thromboembolic disease.

3. Warfarin has been shown to be effective in preventing thromboembolism, but has the disadvantages of bleeding complications and difficulty in control of the level of anticoagulation.

4. The antiplatelet agents, dextran and aspirin, are considerably easier to manage than warfarin and may be utilized for pulmonary embolism prophylaxis. To be maximally effective the antiplatelet drugs should be administered preoperatively.

5. Further research will be required to identify the ideal prophylactic agent for thromboembolic disease.

BIBLIOGRAPHY

1. Arturson, G., Granath, K., Thoren, L., and Wallenius, G.: The Renal Excretion of Low Molecular Weight Dextran, *Acta Chir. Scand.*, 127:543, 1964.
2. Atik, M., Harkess, J. W., and Wichman, H.: Prevention of Fatal Pulmonary Embolism. *Surg. Gyn. and Obst.*, 130:403, 1970.
3. Coventry, M. B., Nolan, D. R., and Beckenbaugh, R. B.: Delayed Prophylactic Anticoagulation. *J. Bone & Joint Surg.*, 55A:1487, 1973.
4. Evarts, C. M. and Feil, E. I.: Thromboembolism after Elective Surgery of the Hip. *Orth. Clin. of North America*, 2:167, 1971.
5. Field, E. S., Nicolaides, A. N., Kakkar, V. V., and Crellin, R. Q.: Deep Vein Thrombosis in Patients with Fracture of the Femoral Neck. *Br. J. Surg.*, 59:377, 1972.
6. Flanc, C., Kakkar, V. V., and Clarke, M. B.: The Detection of Venous Thrombosis of the Legs Using ¹²⁵I-labeled Fibrinogen. *Br. J. Surg.*, 55:742, 1968.
7. Harris, W. H., Salzman, E. W., Athanasoulis, C., Waltman, A. C., Baum, S., and DeSanctis, R. W.: Comparison of Warfarin, Low-Molecular-Weight Dextran, Aspirin, and Subcutaneous Heparin in Prevention of Venous Thromboembolism Following Total Hip Replacement. *J. Bone & Joint Surg.*, 56A:1552, 1974.
8. Mendes, D. G.: Prophylactic Treatment with Dextran-70 in Total Hip Replacement. *Clin. Ortho.*, 90:110, 1973.
9. Rothermel, J. E., Wessinger, J. B., and Stinchfield, F. E.: Dextran-40 and Thromboembolism in Total Hip Replacement Surgery. *Arch. Surg.*, 106:135, 1973.
10. Salzman, E. W., Harris, W. H., and DeSanctis, R. W.: Reduction in Venous Thromboembolism by Agents Affecting Platelet Function. *New Eng. J. Med.*, 284:1287, 1971.
11. Shiny, S.: Thrombosis Prevention. *New Eng. J. Med.*, 284:1324, 1971.
12. Simon, T. L. and Stengle, J. M.: Antithrombotic Practice in Orthopedic Surgery. *Clin. Ortho.*, 102:181, 1974.
13. Tsapogas, M. J., Miller, R., Peabody, R. A., and Eckert, C. L.: Detection of Venous Thrombosis and Effectiveness of Prophylactic Measures. *Arch. Surg.*, 101:149, 1970.
14. Wedge, J. H.: Dextran-70 for the Prophylaxis of Deep Venous Thrombosis and Pulmonary Embolism. *Can. J. Surg.*, 17:45, 1974.



THE BETTER HALF: A Half Century of Auxiliary Service

Helen (Mrs. Frank T.) Padberg*

When the Arkansas Medical Society met in Little Rock in 1925, it was the semicentennial meeting. Fifty years had passed since its organization and it was an appropriate time to consider the history and progress of medicine in the State. While the doctors were in session in the Marion Hotel, more history was being made right across the street. Their wives had assembled in the Capital Hotel and were talking about an organization of their own—an auxiliary to the medical society.

Arkansas was not the first state to have a medical society auxiliary. An organization of doctors' wives was the natural outgrowth of the meetings of the doctors themselves and the need had been felt in several states. We have an interesting story of how it all began.

When the Texas State Medical Association was holding its annual meeting in Dallas in 1917, local wives were called on to plan entertainment for wives of the visiting doctors. The local women worked together and found the association so pleasant that they determined to continue the affiliation in a permanent organization.

There is another incident that is said to have also incited the ladies with the idea of organizing. When one of the Dallas women was entertaining for the visiting doctors' wives, she asked one of the ladies present how she liked Dallas. The reply was, "Very much, indeed! I've lived here for thirty years."

By the next annual meeting, consent had been given by the Dallas County Medical Society for the formation of a Woman's Auxiliary. Its purpose was cooperation. Its motto: "Our Husbands; Our Homes; Our Community; Our Country." Soon after, other Texas counties followed—then a state organization. Coincidentally, Oklahoma, South Dakota and Minnesota were organizing at about the same time. In fact, there is some dispute as to which state really had the first auxiliary. But this proves that the incentive was there and paved the way for the proposal of a national organization in 1922.

At the suggestion of Mrs. S. C. Red, retiring president of the Texas Auxiliary, Texas dele-

gates to the American Medical Association presented the following message:

"The Woman's Auxiliary of the State Medical Association of Texas respectfully requests the approval of the American Medical Association of a movement to organize a Woman's Auxiliary to the American Medical Association, the object of which shall be 'To extend the aims of the medical profession through the wives of doctors to the women's organizations which look to the advancement of health and education, to assist in entertainment at all medical conventions, and to promote acquaintanceship among doctors' families so that closer fellowship may exist'."

Permission was granted at the convention in St. Louis and a meeting was called of the wives present. On May 22, 1922, twenty-four women from eleven states signed their names to a statement favoring the organization of an Auxiliary to the American Medical Association. Mrs. Red, of Houston, Texas, was named president of a temporary organization.

In June of the following year, while the AMA was meeting in San Francisco, the auxiliary became a permanent organization with Mrs. Red as first president.

The next year, 1924, saw the organization of an Auxiliary to the Southern Medical Association, led by Mrs. Seale Harris of Alabama. Mrs. E. H. Cary, of Dallas, Texas, became first president and it was she who interested Dr. Herbert Moulton of Fort Smith in the idea of an auxiliary for Arkansas. Dr. Moulton, then president of the Arkansas Medical Society, wrote to Mrs. C. W. Garrison of Little Rock, requesting that she be chairman of such an effort. Mrs. Garrison had attended the meeting in San Francisco, representing Arkansas unofficially, and she responded enthusiastically to the suggestion.

On the morning of May 14, 1925, doctors' wives from all over Arkansas answered her call and sixty of them "assembled in the parlors of the New Capital Hotel." (It was called the "New" Capital for quite a few years after an extensive remodeling earlier in the century. That was the name in our records of the time. It is now known simply as the Capital Hotel.)

This meeting was also attended by Dr. Moul-

*Historian, Woman's Auxiliary to the Arkansas Medical Society, 175 East Delaware Place, Chicago, Illinois 60611.



Charter members of the Woman's Auxiliary to the Arkansas Medical Society were honored guests at the dedication of a plaque commemorating the founding of the Auxiliary in 1925. Among those who attended the ceremony at the Capital Hotel, Little Rock, where the organizational meeting took place, were, from left, Mrs. Charles G. Hinkle, Mrs. Wallace Rose, Mrs. Robert M. Eubanks, Mrs. H. Fay H. Jones and Mrs. N. F. Wenly. All are charter members and Mrs. Hinkle is a past state president of the Auxiliary.

PAST PRESIDENTS OF AUXILIARY

*1925-26—Mrs. C. W. Garrison	Little Rock	1951-52—Mrs. James G. Martindale	Hope
*1926-27—Mrs. Dewell Gann	Benton	1952-53—Mrs. Gordon P. Oates	Little Rock
*1927-28—Mrs. C. T. Drennen	Hot Springs	1953-54—Mrs. A. A. Little	Texarkana
*1928-29—Mrs. T. G. Porter	Hazen	1954-55—Mrs. Hoyt Choate	Little Rock
1929-30—Mrs. Charles G. Hinkle	Batesville	1955-56—Mrs. John T. Gray	Jonesboro
1930-31—Mrs. Charles E. Oates	Little Rock	*1956-57—Mrs. L. Gardner	Russellville
*1931-32—Mrs. W. R. Brooksher	Fort Smith	1957-58—Mrs. Jack Kennedy	Arkadelphia
1932-33—Mrs. P. H. Phillips	Ashdown	1958-59—Mrs. Gordon P. Oates	Little Rock
*1933-34—Mrs. Barton A. Rhinehart	Little Rock	1959-60—Mrs. Paul Gray	Batesville
1934-35—Mrs. William Hibbitts	Texarkana	*1960-61—Mrs. C. C. Long, Jr.	Ozark
*1935-36—Mrs. Marcus T. Smith	Tichenor	1961-62—Mrs. Hershel Wilmoth	Nashville
*1936-37—Mrs. J. T. McLain	Gurdon	1962-63—Mrs. Frank Padberg	Little Rock
1937-38—Mrs. Curtis W. Jones, Sr.	Benton	1963-64—Mrs. Sarah Keller	Jonesboro
*1938-39—Mrs. J. B. Crawford	Little Rock	1964-65—Mrs. James W. Branch	Hope
1939-40—Mrs. C. E. Kitchens	DeQueen	1965-66—Mrs. Charles F. Wilkins	Russellville
1940-41—Mrs. Alfred Hathcock	Batesville	1966-67—Mrs. John McCollough Smith	Little Rock
1941-42—Mrs. Calvin Churchill	Batesville	1967-68—Mrs. Art Martin	Fort Smith
1942-43—Mrs. L. G. Fincher	El Dorado	1968-69—Mrs. C. D. Burroughs	Pine Bluff
1943-44—Mrs. L. J. Kosminsky	Texarkana	1969-70—Mrs. Carl Parkerson	Hot Springs
*1944-45—Mrs. A. C. Shipp	Little Rock	1970-71—Mrs. C. Lynn Harris	Hope
*1945-46—Mrs. E. L. Thompson	Hot Springs	1971-72—Mrs. Harold D. Langston	Little Rock
1946-47—Mrs. Fred Hames	Pine Bluff	1972-73—Mrs. W. Myers Smith	North Little Rock
1947-48—Mrs. W. J. Hunt	Warren	1973-74—Mrs. A. S. Koenig	Fort Smith
1948-49—Mrs. Mason G. Lawson	Little Rock	1974-75—Mrs. Joan Roberson	Pine Bluff
1949-50—Mrs. Louis K. Hundley	Pine Bluff	1975-76—Mrs. Curry Bradburn	Little Rock
1950-51—Mrs. Warren S. Riley	El Dorado	*Deceased	

ton, Dr. William H. Bathurst, secretary of the medical society, and by Dr. Morgan Smith, dean of the medical school. They offered encouragement and assured the ladies that an auxiliary would be of real value to the medical society.

The aims and purposes of such an organization were presented. They would follow those of the AMA Auxiliary. Temporary officers were named. There was discussion about a constitution and by-laws, using those of the auxiliaries to the AMA and Alabama as references. Then a motion was made for a permanent organization and the following officers were elected:

Mrs. C. W. Garrison, President	Little Rock
Mrs. Dewell Gann, Sr., President-elect	Benton
Mrs. William R. Bathurst, Vice-president	Little Rock
Mrs. R. H. T. Mann, Recording Secretary	Texarkana
Mrs. T. G. Porter, Treasurer	Hazen
Mrs. C. E. Oates, Corresponding Secretary	Little Rock
Mrs. C. T. Drennen, Parliamentarian	Hot Springs

Names of charter members who were present for this initial meeting were: Mrs. C. W. Archer, Mrs. William R. Bathurst, Mrs. B. Brewster, Mrs. E. A. Callahan, Mrs. D. T. Cheairs, Mrs. A. J. Clay, Mrs. J. B. Crawford, Mrs. J. C. Cunningham, Mrs. G. C. DeBolt, Mrs. E. V. Dildy, Mrs. C. T. Drennen, Mrs. Robert M. Eubanks, Mrs. T. M. Fly, Mrs. Dewell Gann, Sr., Mrs. C. W. Garrison, Mrs. A. F. Gray, Mrs. C. R. Gray, Mrs. W. E. Gray, Mrs. B. L. Harrison, Mrs. Homer A. Higgins, Mrs. C. G. Hinkle, Mrs. S. B. Hinkle, Mrs. F. E. Hurtle, Mrs. W. P. Illing, Mrs. George F. Jackson, Mrs. A. L. Jobe, Mrs. H. Faye H. Jones, Mrs. J. L. Jones, Mrs. William E. Jones, Mrs. S. P. Junkin, Mrs. S. A. Lowrey, Mrs. R. H. T. Mann, Mrs. Edward Meek, Mrs. H. Moulton, Mrs. H. R. McCarroll, Mrs. L. C. McVay, Mrs. H. H. Neihuss, Mrs. C. E. Oates, Mrs. J. M. Osborne, Mrs. J. M. Phillips, Mrs. T. G. Porter, Mrs. L. D. Reagan, Mrs. Charles C. Reed, Mrs. D. A. Rhinehart, Mrs. B. A. Rhinehart, Mrs. Robert Richardson, Mrs. Wallace D. Rose, Mrs. J. P. Runyan, Mrs. W. L. Sadler, Mrs. C. V. Scott, Mrs. Homer Scott, Mrs. J. P. Sheppard, Mrs. A. C. Shipp, Mrs. H. T. Smith, Mrs. W. F. Smith, Mrs. J. A. Summers, Mrs. J. C. Swindle, Mrs. P. E. Thomas, Mrs. Anderson Watkins, and Mrs. N. F. Wenly.

The president appointed the following committees to serve for the first year:

Committee on Organization

Mrs. Wm. R. Bathurst	Little Rock
Mrs. P. E. Thomas	Clarendon
Mrs. B. Brewster	McCrory
Mrs. H. T. Smith	McGehee

Committee on Finance

Mrs. J. M. Phillips	Benton
Mrs. T. G. Porter	Hazen
Mrs. H. H. Neihuss	El Dorado

Committee on Education and Publicity

Mrs. O. K. Judd	Little Rock
Mrs. H. R. McCarroll	Walnut Ridge
Mrs. C. G. Hinkle	Batesville
Mrs. G. C. DeBolt	El Dorado
Mrs. C. A. Archer	DeQueen
Mrs. B. L. Harrison	Trumann

Committee on Constitution and By-Laws

Mrs. C. T. Drennen	Hot Springs
Mrs. S. A. Lowrey	Luxora
Mrs. Charles E. Oates	Little Rock
Mrs. B. C. Middleton	Texarkana
Mrs. J. L. Jones	Searcy

Arkansas became the 18th state to organize an auxiliary. On May 19, 1926, the first annual meeting was held in the Arlington Hotel at Hot Springs, at which time the constitution and by-laws were adopted. Six counties had been organized and there were 203 members, including some members-at-large. Mrs. S. A. Collom, of Texarkana, president of the Texas Auxiliary, was an honored guest and presented to the Arkansas Auxiliary its first gavel, made from a walnut tree which had grown on the state line between Texas and Arkansas. Reports showed that already the women had found work to do in the advancement of health and health education. They were firmly launched as an organization for service.

Service projects in the early years of the organization included such things as furnishing eye glasses for the needy; summer round-ups for elementary school children; providing milk and warm school lunches; making layettes, toys and OB kits; promoting Hygeia magazine; assisting the Tuberculosis Association, Red Cross, orphanages, and free dental clinics. They also campaigned for education on communicable diseases.

By 1928, there were nine organized counties. That year, the Auxiliary was asked to help in efforts to get a Basic Science Law, and a first-class

Medical School with a general hospital and an adjoining training school for nurses.

Mrs. Charles Oates drew up plans for a loan fund in 1928, making loans available to University of Arkansas Medical Students. This fund was started in Pulaski County with the contribution of a \$50 Liberty Bond by Mrs. Oates. As far back as 1919, she had personally made loans to medical students in need. So it was a well deserved honor when, in 1938, this fund was named for its originator, Ilse F. Oates.

The Martha Harding Gann Loan Fund for student nurses was begun in 1948 when Dr. Dewell Gann donated \$1,500 as a memorial to his mother, first president-elect of the auxiliary.

The Dr. and Mrs. W. R. Brooksher Student Loan Fund, established by the Council of the Arkansas Medical Society in 1958, also received the support of the Auxiliary. This fund is available to students in training for the degree of Medical Technologist, X-ray Technician, Physical Therapist, Occupational Therapist and Medical Social Worker in approved schools in Arkansas.

Projects in the early 30's included campaigns for birth registration and correct death records — education on communicable diseases — health examinations for disadvantaged children. It also included more interest in membership as the Auxiliary had spread to 17 counties in 1933 and to 19 in 1938. By 1951, there were 660 members.

The tradition of a state president's pin commenced when the design of Mrs. C. E. Oates was accepted in 1930. It was said that the pin attracted attention at the national convention and both South Carolina and Florida asked permission to use the design. A revised design for Arkansas was introduced in 1974.

A unique feature of the 1932 convention was that the Medical Society and Auxiliary were called to order in joint session by society president, Dr. D. A. Rhinehart. This was the first time the two organizations opened their meetings as one. Joint memorial services were inaugurated at this same convention. Another first for the Auxiliary that year, was a visit from the national president.

The Auxiliary was called on to take an active part in legislation as early as 1929. From 1939 onward, as the trend toward socialized medicine gained acceptance, legislation has been a priority for Auxiliary attention.

In 1940, the women helped establish a library at the McRae Sanatorium. Next year, the Erle Chambers Memorial Library Fund Committee began a very worthwhile service of providing books for the libraries in the tuberculosis hospitals that has only in recent years been discontinued because of lack of need.

During the war years, when many doctors were separated from homes and families, their wives served in many different ways to bring comfort and help — through Red Cross, Travelers Aid, U.S.O., Nurses Aides, Canteen, knitting, sewing and making surgical bandages.

The Auxiliary helped in getting a State Cancer Commission in 1945 and sponsored an essay contest on Cancer Control. Since 1937, there had been cooperation with the Women's Field Army in Cancer Control.

March 30th was proclaimed Doctors' Day officially in 1951 by a resolution of the State Legislature and Governor. Doctors' Day originated in the Auxiliary to the Southern Medical Society as a special day to honor the doctors. This has been done in many ways, depending on the desires and originality of the individual county auxiliary . . . from a boutonniere for his lapel to a service project in his honor . . . or a social function for his entertainment. The red carnation is the traditional flower for Doctors' Day.

The Collect, written especially for the Arkansas Auxiliary by its Poet Laureate, Mrs. George T. Fletcher, was adopted for Auxiliary use in 1952. Vera Blood Fletcher has written many lovely and timely poems about doctors, their lives, and their wives.

The last three decades have been years of growth and accomplishment. There has been a continuous drive for beneficial legislation. There has been cooperation with other organizations for better rural health. The Auxiliary took an active part in the polio vaccine project with the doctors. Thousands of dollars have been earned for the American Medical Association Education and Research Foundation. Nurse recruitment and Health Career Days have been emphasized each year. International Health Activities have benefitted from the hand knitted bandages, the medical books and sample drugs that have been collected and sent to a national distribution center. The Auxiliary has stressed awareness and public education concerning Mental Health, Civil Defense, Disaster Preparedness, Safety,

Poison Control. In recent years, there has been a campaign against violence. Aid and encouragement have been given the young wives in the Auxiliary to the Student American Medical Association.

Since 1958, the publication of ARK-MAP, a State newsletter, has been a source of information to all members of the Auxiliary.

Two women have brought honor to Arkansas by serving as presidents on the national level. Mrs. Mason Lawson was president of the Woman's Auxiliary to the American Medical Association in 1955 and Mrs. C. C. Long in 1968. Four have served as president of the Southern Auxiliary: Mrs. C. W. Garrison, in 1929; Mrs. C. E. Oates, in 1932; Mrs. Louis Hundley, in 1955; Mrs. Paul Gray, 1963.

As the scope of activities has grown through the years, so has the membership. There are now about 880 members. Because of the devotion of so many, working continuously through the years, surely the Arkansas Auxiliary has fulfilled its desire for service and realized its objectives, which have been:

1. To assist the Medical Society in its program for the advancement of health and health education.

2. To cultivate friendly relations and promote mutual understanding among physicians' families.

3. To participate in any endeavor upon the request of the Arkansas Medical Society.

Climaxing the 50th year of the Arkansas Auxiliary was the installation of a bronze plaque at the front entrance of the Capital Hotel in a ceremony on September 4, 1975. On the opposite post of the entrance is a plaque designating the stately old building as a Quapaw Quarter Structure. The Quapaw Quarter Association is dedicated to preserving significant historical sites and structures. The Capital Hotel, a significant architectural structure of the 1870's, had a colorful and important role in the history of the State of Arkansas.

The plaque reads:

WOMAN'S AUXILIARY
to the
ARKANSAS MEDICAL SOCIETY
organized May 14, 1925
in the
CAPITAL HOTEL





ELECTROCARDIOGRAM

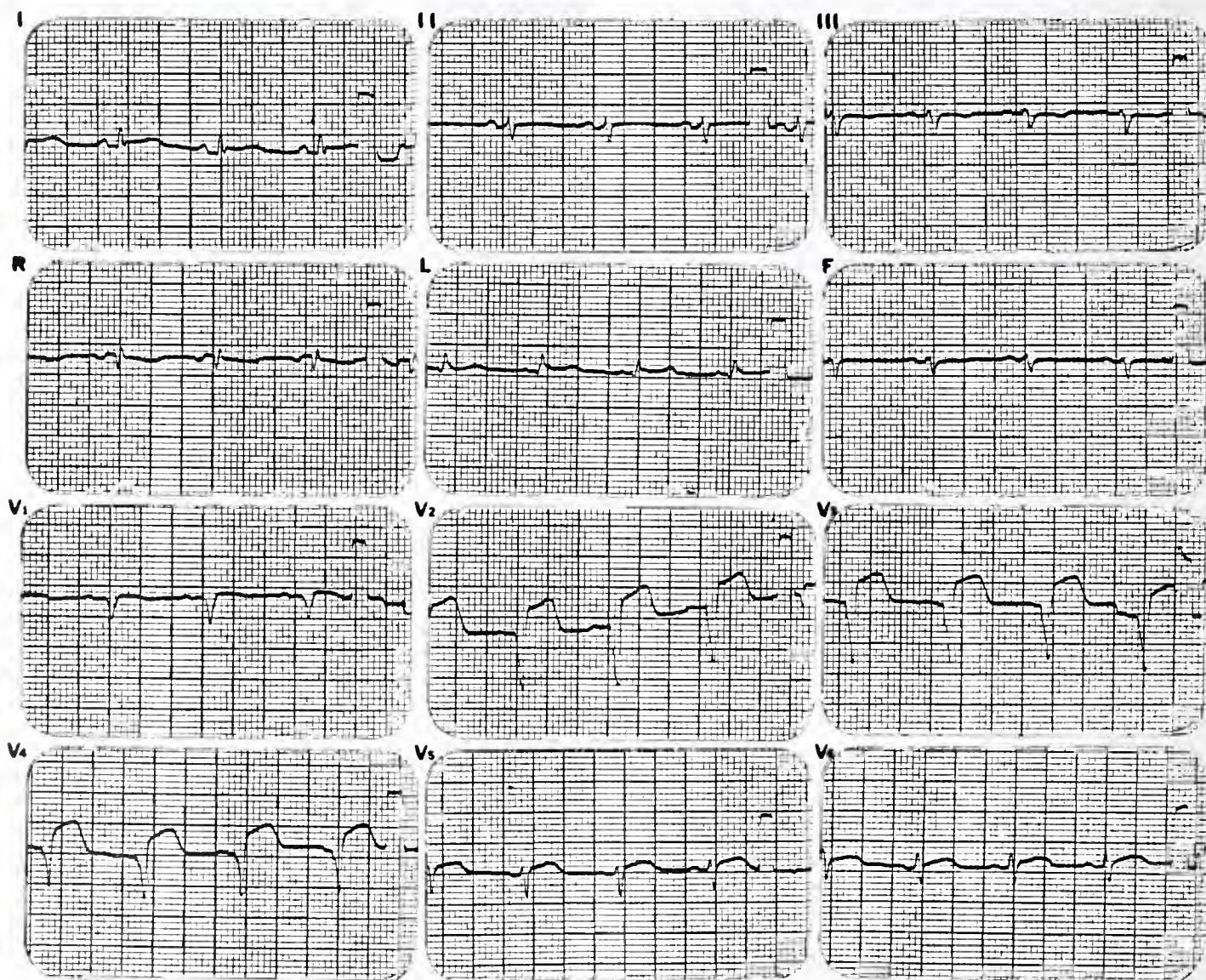
OF THE MONTH



The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 355)

A 67-year-old man had the sudden onset of crushing substernal chest pain.



Malcolm B. Pearce, M.D.
Associate Professor of Medicine
University of Arkansas College of Medicine
Little Rock, Arkansas 72201

Office Orthopaedics

"The Scotty Dog and His Collar"

Leighton Millard, M.D.*

Definition

Spondylolysis (Gr.: Spondylo=spine and lysis=to dissolve) is an anatomical condition of the lumbar spine that is present in approximately 4% of the general population.¹ It causes symptoms in only a small number of these people.

Etiology

Many theories have been advanced as to the etiology of this problem. These include congenital defect,² congenital "tendency" to develop the defect,³ and micro-fracture. It is interesting to note that four-legged animals do not have this defect, nor do bed-ridden children born with severe mental and/or motor dysfunction. There-

fore, it is almost certain that the upright pedal posture has something to do with the appearance of this disorder. The defect itself is most often seen on an oblique x-ray of the lumbar spine and is most common at the lumbosacral level. (Fig. 1A)

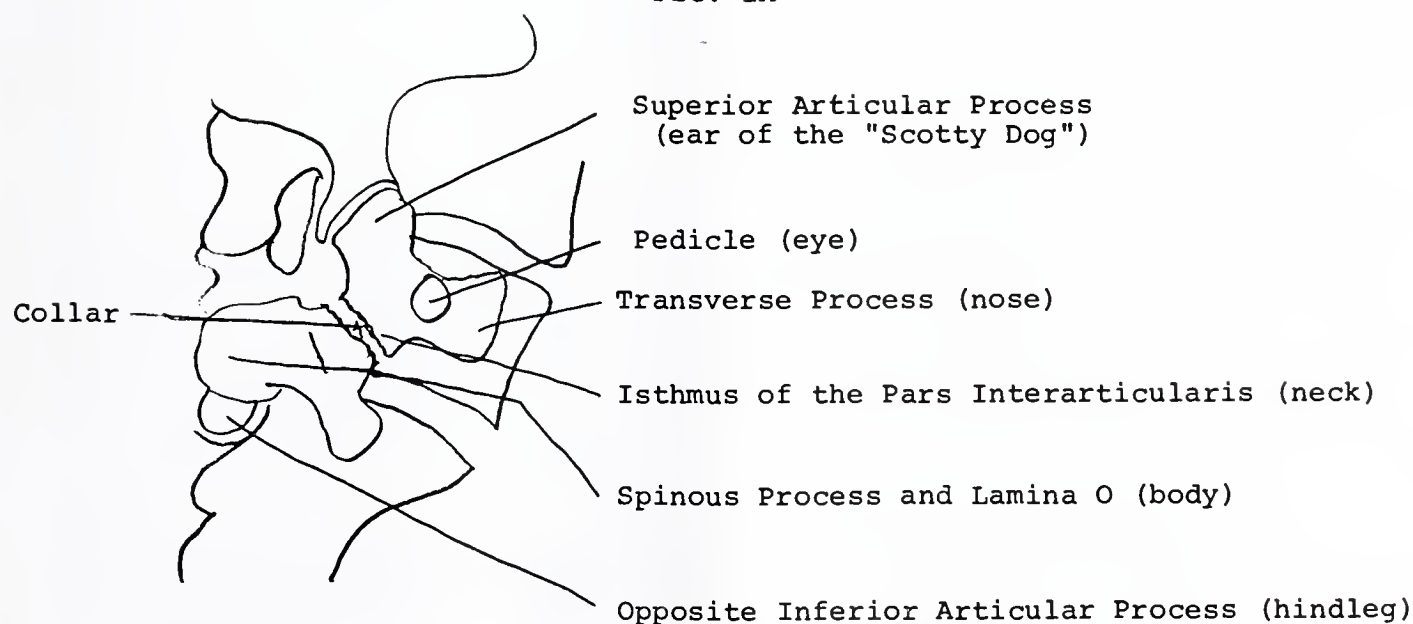
The patient with this problem may present with mild aching in the low back area. Usually the defect is found coincidentally on an x-ray taken because of some low back injury. The defect may be associated with slow healing of common low back injuries.

Symptoms

The patient with slippage at the defect (it now becomes a spondylolisthesis; Gr.: listhesis, meaning to slide) (Fig. 1B) usually presents with spontaneous and intermittent dull aching pain

*Little Rock Orthopedic Clinic, P.O. Box 5270, Little Rock, Arkansas 72205.

FIG. 1A



in the low back area, buttocks, and thighs. The symptoms are related to standing and walking. Sciatica may develop later because of protrusion of the disc at the L4-5 and L5-S1 level due to the development of fibrous tissue and resultant slippage at the defect. The anterior and posterior longitudinal ligaments, annulus fibrosus, and articular capsule ligaments are stretched in spondylolisthesis and thereby may produce pain. Nerve root irritation at L4-5 and less often L5-S1, may occur and produce either local pain or sciatica.

Findings

On examination the patient will usually have an increased lordosis in the lumbar spine, and occasionally a "step-off" deformity will be palpable between the fifth lumbar and first sacral spinous processes. Some degree of tenderness, muscle spasm, and limitation of range of motion will be present also. Neurologic deficit is rarely encountered.

Diagnosis

The diagnosis is made by x-ray, and the defect is best appreciated on the oblique view. This is where the "Scotty Dog" can be seen. In this view, the Scotty's ear is the superior articular process, his nose is the transverse process, and his neck is the pars interarticularis (the "part" between the articular processes). If the patient has a

spondylolysis defect, a "collar" will appear across the neck area. (Fig. 2A)

Treatment

The symptoms can usually be controlled by avoiding strenuous activities, employing good body mechanics in lifting and following a routine exercise program.⁴ Occasional support of the lumbar spine with a re-inforced corset or brace is necessary; however, it is very important for the patient wearing a back support to *also* do the routine, daily muscle stretching and strengthening exercises.

Intractable pain, progressive slippage, persistent nerve root pain or the appearance of neurological deficit are indications for surgical treatment. The surgery of choice, preceded by myelogram study, is arthrodesis of the spine. Depending on the individual case, disc excision and fusion may be necessary. In a few rare cases, relief of symptoms may follow simple removal of bone and fibrous tissue to relieve nerve root irritation. This, however, should be accompanied by fusion in young and active patients.

BIBLIOGRAPHY

1. Finneson, B. E.: Low Back Pain. J. B. Lippincott, p. 277, 1973.
2. Campbell's Operative Orthopedics. C. V. Mosby, 5th Edition, p. 2008.
3. AAOS Symposium on the Spine. C. V. Mosby, p. 161, 1967.
4. Ishmael, W. K., and Shorbe, H. B.: Care of the Back: Industrial Edition. J. B. Lippincott, 1962.

FIG. 1B

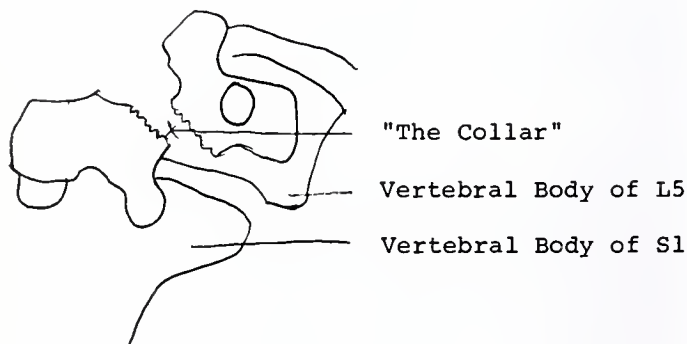
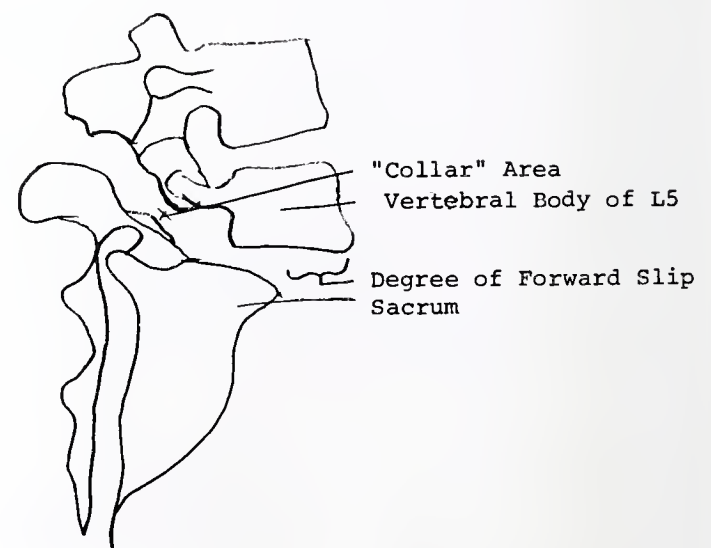


FIG. 2A



Toxicology Update

from the Arkansas poison control—
drug information center

Emergency poison or drug information for
health professionals only.

Pulaski County: 666-5532 • WATS: 1-800-482-8948

Management of the Acutely Poisoned Patient Part I. Induced Emesis

A. Nelson Voldeng, Ph.D.*

Over 2000 requests for emergency information were received in the first year of operation of the statewide Arkansas Poison Control-Drug Information Center. The management protocol for most of these poisonings recommends removal of the orally ingested material via gastric lavage or induced emesis. The purpose of this and a subsequent article will be to compare the effectiveness of some of these methods and discuss a few additional measures which aid in reducing the toxicity from an acute ingestion of a poison or drug overdose.

Time is essential in many aspects of life, especially that of a poisoned patient. The effectiveness of any procedure to reduce G.I. absorption of an orally ingested poison or drug is significantly decreased when more than 30 minutes has lapsed post ingestion. After this period, much of the drug or poison may be found in the intestinal tract. Once the offending chemical reaches this area, emesis or gastric lavage is of limited value, and systemic absorption of the agent can occur. For this reason, gastric lavage or emesis should be initiated within 30 minutes following oral ingestion of the poison.

Induced emesis is not recommended in poisonings due to antiemetics, strychnine or corrosives (alkalies or strong acids). Regurgitation of the corrosives would re-expose the pharyngo-esophageal tract to additional chemical burn and injury. Emetics are contraindicated in strychnine poisoning since the stimulation of vomiting could result in strychnine convulsions. Emesis should not be induced in patients who are comatose or convulsing.

Theoretically, emetics should not be given to

*Professor of Medicinal Chemistry, University of Arkansas College of Pharmacy, 4301 West Markham Street, Little Rock, Arkansas 72201.

victims of anti-emetic poisoning, however, one report claims effectiveness in chemically inducing emesis in 92% of cases involving ingestion of anti-emetic drugs. The concern arises when the induced emesis does not occur, and the physician is confronted with the toxicity of the emetic as well as the ingested poison.

Previously we were taught not to induce emesis to victims of petroleum distillates (gasoline, paint thinner, etc.) however, recent publications have led us to revise our management protocol. Although a few authorities continue to express concern regarding the potential aspiration of some of the ingested petroleum distillate into the lungs of the vomiting patient (producing chemical pneumonia) there is increasing evidence that ipecac-induced emesis is safe and useful in these poisonings. The possibility of vomiting around a lavage tube (unless an endotracheal cuff is employed) is of concern and many clinicians believe lavaging a petroleum distillate poisoned patient is not as safe as productive induced emesis.

Emesis can be induced many ways, but several of these methods are considered undesirable or even dangerous.

1. Stroking the posterior pharyngeal wall with a finger or blunt instrument (spoon handle) is effective in inducing emesis in only 67% of the poisoned victims. Having the patient drink water or milk prior to stimulating the gag reflex slightly improves the predictability of inducing emesis, however, the method is considered inadequate because of the inconsistent emetic effect and the small degree of productive vomiting.
2. Irritant emetics such as aqueous solutions of tartar emetic (potassium antimony

tartrate), copper sulfate (cupric sulfate) or dry powdered mustard have been used, but their toxicity or unpredictability in inducing emesis has decreased their usefulness. Swallowing a glassful of warm salt water or soapy water often induces emesis, but not always. A serious danger with using salt water occurs when the patient fails to vomit. The literature contains several cases in which poisoned victims were administered warm saline orally, but the patients did not vomit and died from the resulting hypernatremia. Some have advocated copper sulfate solutions as being fast acting emetics, but like sodium chloride, the emesis is unpredictable (about 55%) and failure to vomit can lead to serious intoxication of the inorganic cation.

3. Both apomorphine and syrup of ipecac are widely used, effective emetics. Syrup of ipecac produces emesis by irritating the stomach as well as by a central effect in which the absorbed alkaloids stimulate the chemoreceptor trigger zone. Many studies have attempted to measure the effectiveness of ipecac in inducing emesis. Some clinicians state syrup of ipecac is 97% effective in producing emesis, others report only 80% effectiveness. Most clinicians will agree that administration of syrup of ipecac in a sufficient dose (15 ml for people over 1 year of age) followed by a glass of water will stimulate emesis within 30 minutes in approximately 95% of the patients. The average time for emesis is 17-18 minutes post administration of syrup of ipecac. If the administration of syrup of ipecac does not induce emesis within 20 minutes, the dose may be repeated. In the event emesis still does not occur, gastric lavage may be required to recover the potentially cardiotoxic ipecac as well as the ingested poison. Several studies have suggested that children over 3 years of age and adults can tolerate 30 ml of syrup of ipecac without toxicity. Certainly the dangers of gastric lavage to remove the ipecac must be weighed against the potential toxicity of the ingested poison. It should be noted that in the 7461 poison report forms submitted to the National Clearinghouse for Poison Control Centers in 1965 there were no reported toxicities due to administration of syrup of ipecac.

Most pharmacies have destroyed existing stock of fluid extract of ipecac as it occasionally has been mistakenly sold in lieu of the syrup. The fluid extract of ipecac is approximately 14 times more potent than the syrup, and substitution of it for the syrup has caused several deaths in the U. S.

Apomorphine is relatively ineffective when administered orally, but a subcutaneous injection (5 mg for adult; 0.1 mg/kg for children) produces emesis in 5-10 minutes. Overdoses of apomorphine may produce CNS depression, but this undesired effect may be eliminated by the post emesis parenteral administration of nalorphine (5 mg for adult; 0.1 mg/kg for children). Even though apomorphine produces emesis more promptly than syrup of ipecac, its use is limited to a hospital and the average period from ingestion of a poison to arrival at the hospital has been estimated to be 67 minutes.

If the syrup of ipecac were administered shortly after the poisoning occurred, most victims would have vomited before arriving at the hospital. Physicians, pharmacists, E.M.T. and nurses often recommend the administration of syrup of ipecac before the victim is transported to the hospital. This is a life saving aid, but many times it causes unnecessary dilemma in route as the patient or parents were not advised to carry a bucket or wastebasket in the car.

Summary

Repeated studies have documented that syrup of ipecac and apomorphine are the agents of choice for inducing emesis. Syrup of ipecac (1 ounce) may be purchased without prescription, and each home should stock this important poison-prevention agent. The use of apomorphine is generally limited to hospitals, and should be used whenever prompt emesis is demanded.

Several clinicians have reported that in children, apomorphine produces a mean recovery of G.I. contents of 31% (range 3-95%) and syrup of ipecac produces a mean recovery of 28% (range 0-78%). The efficacy of induced emesis in removing stomach contents is definitely improved when the patient drinks a large glass of water.

These figures suggest that even the best emetic agents are of questionable efficacy in treating the acutely poisoned patient. Additional life saving measures and alternatives to inducing emesis in the acutely poisoned patient will be discussed in a subsequent article to be published next month.



Problems in Care of the Medically Indigent East Arkansas Cancer Patient

E. J. Easley, M.D.* and R. C. Steinkamp, M.D.**

Early recognition of cancer and an initial multidisciplinary approach to establish a treatment program are recognized as paramount in salvage of patients and the return to and maintenance of a productive life.

The Arkansas Department of Health through the public health clinics over the State engages in educational, early detection of and other activities to prevent cancer. Constraints to the medical care of indigent patients are of concern. In order to determine major problems of the medically indigent cancer patient we selected Eastern Arkansas counties for study.

Physicians licensed to practice in 13 Eastern Arkansas counties were sent a questionnaire to determine physician response to problems of the medically indigent cancer patient, referral patterns for cancer patients, interest in consultation and training by a specialist at a local facility and interest in developing cancer detection clinics. Responses were returned from 61 of 207 physicians to whom a questionnaire was mailed. Three were undeliverable, providing a response rate of 30 per cent.

On a scale of 5 for highest priority, physicians estimated the following as major problems in care of medically indigent cancer patients:

Funding mechanisms for patient hospitalization	4.4
Transportation to and from clinic	2.3
Funding mechanisms for out-patient care	2.1
Inadequate number and type of specialists in the area	2.0
Delay in referral acceptance by treatment center	1.6

*Director, Bureau of Community Health Services, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.

**Director, Uterine Cervix Cytology Project, MCH Division, Arkansas Department of Health.

Forty of 61 (66%) physicians referred indigent cancer patients to the University of Arkansas for Medical Sciences. Fifty-four percent of responding physicians referred to the University of Tennessee Medical Center. Thirty percent referred to specialists in Eastern Arkansas. Sixteen percent referred patients to other facilities, namely, to Memphis and Houston hospitals and to the Arkansas Rehabilitation Services.

Thirty-four physicians were interested in developing early cancer detection clinics. Twenty-nine were interested in participating in a regular tumor clinic, preferably on a monthly basis, at which specialists may be in attendance to advise and train local physicians.

Prime cancer sites of interest to responding physicians were breast and cervical or other gynecological cancer. Large bowel and skin cancers shared the second interest priority, followed by lung cancer, lymphomas and cancer of the head and neck.

Of particular interest were general comments:

"No need, personally, for anything other than we are doing".

"The University of Arkansas is to be complimented...don't have complaints in regard to getting my patients attended".

"All our doctors are *ca* conscious".

"If government programs would provide preventative medicine benefits for paps and annual physicals, this could be taken care of in our clinic".

"Department has been very time consuming in the rapidity with which they accept gyn tumor referrals".

"Because of proximity our cases must continue to be referred to Memphis for care. This

is the only logical approach. We need an inexpensive or free mammogram service available. We must fund the West Tennessee Cancer Clinic for this care".

"We need more facilities and professional personnel in our area for handling care of cancer for indigent patients".

"The thing we lack most is radiation facilities open to the medically indigent, radium, cobalt and neutron. Since these are supplied in Memphis which is out of state, Medicaid will not pay for these in another state".

"It takes too long to get a patient approved for Medicaid when chemotherapy is started, sometimes over several months and by this time they are in debt".

"A cancer patient under therapy is a hard patient to transfer because of the record and treatment knowledge volume, it's a long job to prepare the detailed summary necessary".

"No fund to pay for the barium enema or gastro-intestinal series or liver scans which are needed to establish diagnoses".

"University of Arkansas too far, inconvenient for transportation and . . . patients, never much done without several trips . . ."

"Easier access to the excellent facilities of Memphis with payments for services there and or the medically indigent locally are what is needed. Diversion of some of the race track money is the easiest answer".

"The diagnosis, plan and outline of treatment should go back to the rural physician—medication used and why, and an educational area here to develop more interest in *word* cancer".

"No way you can service these people in Little Rock in a convenient and acceptable way when they can be serviced so readily in Memphis. Time and distance are two facts we must face up to squarely without rationalizing other matters into the conclusion".

"We need a Central State Cancer Hospital, independent from UAMC. Lack of beds and referral problems to them are overwhelming".

"Need to get Crittenden County tied in with U.T. cancer program—most economical and best for patient—Too far to transport for check up and care to Little Rock or Jonesboro".

"A bimonthly tumor conference with chemotherapist and radiologist would be of even more benefit. When we get cobalt unit in

operation we would like a radiotherapist weekly".

"Several of my cancer patients under treatment at U.A. are receiving medicines and follow-up here in conjunction with U.A. If this could be expanded, with further education of the outlying physicians and closer work and feedback from the University perhaps the expertise there could be disseminated".

In summary, we have conducted a mail questionnaire with Eastern Arkansas physicians to determine needs and problems of the medically indigent cancer patient. Identified problems are: funding for hospitalization, chemotherapy, and diagnostic out-patient visits; transportation; communication of referral clinic with referring physician; deficiencies in facilities and numbers of professional personnel. These problems are not unique to Eastern Arkansas but are State-wide.

The knowledge acquired from the questionnaire will be utilized to develop resources and means to improve care for medically indigent cancer patients in Arkansas. We are grateful to the physicians who took time from busy practices to provide thoughtful and meaningful responses.

Appreciation is given to Mr. David R. Taylor, U.A.M.S. Medical Student, for assistance in summarizing answers.



RESOLUTIONS

Dr. Deane D. Wallace

WHEREAS, the members of the Pulaski County Medical Society note with sincere sorrow the death of their colleague, Dr. Deane D. Wallace, and

WHEREAS, he had been a member of this Society for twenty-six years and his dedication and interest in its affairs are recognized with grateful appreciation, and

WHEREAS, his devotion to the well-being of his patients reflects credit upon the entire profession;

BE IT THEREFORE RESOLVED:

THAT, we express our sincere sympathy to Dr. Wallace's family by entering this resolution as a part of the permanent minutes of this Society,

RESOLUTIONS

and

THAT, a copy of this resolution be forwarded to the Journal of the Arkansas Medical Society for publication, and

THAT, a copy of this resolution be forwarded to Dr. Wallace's family.

By Direction of the Memorials Committee
T. Duel Brown, M.D., Chairman
Henry Hollenberg, M.D.
Robert Watson, M.D.

Adopted by Executive Committee
November 19, 1975

* * *

Dr. James O. Cooper

WHEREAS, the members of this Society express their sense of loss in the recent death of Dr. James O. Cooper, and

WHEREAS, Dr. Cooper enjoyed a reputation for superior knowledge in his chosen field of pediatrics, and

WHEREAS, he held a position of great responsibility in the Pediatric Department at the University of Arkansas Medical Center;

BE IT THEREFORE RESOLVED:

THAT, we express our sympathy to Dr. Cooper's family by forwarding a copy of this resolution to them, and

THAT, this resolution be made a permanent part of the Society's records; and

THAT, a copy of this resolution be forwarded to the Journal of the Arkansas Medical Society for publication.

By Direction of the Memorials Committee
T. Duel Brown, M.D., Chairman
Henry Hollenberg, M.D.
Robert Watson, M.D.

Adopted by Executive Committee
November 19, 1975

* * *

Dr. Paul M. Fulmer

WHEREAS, the recent death of Dr. Paul M. Fulmer is noted with sincere sorrow by the members of the Pulaski County Medical Society, and

WHEREAS, Dr. Fulmer was an esteemed member of this Society for nearly half of a century, and

WHEREAS, he will long be remembered by his colleagues and his patients for his unselfish devotion to the health care of the citizens of this community;

BE IT THEREFORE RESOLVED:

THAT, this resolution be adopted as an ex-

pression of our appreciation for Dr. Fulmer, and

THAT, a copy of this resolution be forwarded to Dr. Fulmer's family indicating our deep sympathy, and

THAT, a copy be forwarded to the Journal of the Arkansas Medical Society for publication.

By Direction of the Memorials Committee
T. Duel Brown, M.D., Chairman
Henry Hollenberg, M.D.
Robert Watson, M.D.

Adopted by Executive Committee
November 19, 1975

* * *

Dr. George Cleveland Coffey

BE IT RESOLVED that the Garland County Medical Society pay special tribute to our recently departed member, Dr. George Cleveland Coffey.

Dr. Coffey received his medical degree from Vanderbilt University fifty-nine years ago and carried on an active practice for these many years. He was a veteran of World War I. Dr. Coffey was known for his work in the urological field and was active in the affairs of the Medical Society, having served on many committees and boards. He was held in high regard by the medical profession and also by many others who sought his medical advice.

BE IT FURTHER RESOLVED that a copy of this resolution be sent to his sister, Alice Maude Reynolds, and brother, L. H. Coffey, and spread on the minutes of the Society and published in the Arkansas State Medical Journal.

* * *

Dr. Paul O. Wright

BE IT RESOLVED that the Garland County Medical Society pay tribute to our recently departed member, Dr. Paul Oliver Wright.

Dr. Wright was active as a pharmacist for some twelve years; however, his desire to intimately serve mankind led him to the study of medicine. Upon graduation, he entered into general practice where he evidenced a marked degree of devotion to his patients. He practiced in Hot Springs for a period of fifteen years and his kindly attention will be missed by many.

He was devoted to his wife and family and to them we express our sorrow.

BE IT FURTHER RESOLVED that a copy of this resolution be sent to his wife and family, to the State Medical Journal, and be spread on the minutes of the Society.



EDITORIAL

Tumors and Immunity

Alfred Kahn, Jr., M.D.

The cause of cancer is still unknown despite intensive investigation. There are studies which tend to incriminate viruses, chemicals, radiation, and so on. One of the interesting reports on malignancy is on osteogenic sarcoma in which the authors Levin, Byers, Fudenberg, Wybran, Hackett, Johnson, and Spitler, in which they studied "The Immunologic Parameters Before and During Immunotherapy With Tumor Specific Transfer Factors". They used transfer factor because it can increase cell mediated immunity but does not increase humoral immunity. Cellular type immunity is said to increase in the household contacts of patients with osteogenic sarcoma. Thus, these individuals can act as donors for transfer factor. The authors have tried giving transfer factor to patients with osteogenic sarcoma in hopes of obtaining a cytotoxic effect on the tumor cells, in as much as conventionally treated cases with osteogenic sarcoma have a bleak prognosis—50% have metastatic lesions within six months after diagnosis. The authors pointed out that there were three major problems in this type of therapy; the tumor may be so big that the host's body does not have enough lymphocytes to adequately destroy the tumor; secondly, if the tumor is in a vital organ, the inflammation produced by the therapy may be injurious; thirdly, it is difficult to monitor all the clinical parameters of the host and recipient in all, thirteen patients received transfer factor out of eighteen studied. Levin, et al, was able to demonstrate any increased cytotoxicity in the patient's lymphocytes after transfer factor was administered; pain and swelling occur around the tumor and active rosette forming cells increase. It is stated that transfer factor treatment is not desirable in large tumors;

that it is best employed in treating occult metastases, small tumors, and prolonging the beneficial effects of amputation.

Byers, Levin, Hackett, and Fudenberg have investigated tumor specific cell mediated immunity in the household contacts of cancer patients (Journal of Clinical Investigation, Volume 55, page 500, March 1975). They used three different tumor types: Osteogenic sarcoma, hypernephroma, and breast carcinoma. These healthy household contacts of individuals with osteogenic sarcoma and breast cancer had increased cellular immunity against osteogenic sarcoma and carcinoma of the breast; this type of immunity was not found in hypernephroma. Where this immunity existed, there was no difference in the immunity based on genetic relationship or not—kin and non-kin had the same reaction. It was further noted that the immunity was tumor specific; the household contacts did not have immunity against other tumor types or against non-tumor antigens. These findings certainly suggest, but do not prove, a virus cause of certain tumors.

An editorial "Surgical Oncology At The Crossroads" written by W. Bradford Cannon (Surgery, Gynecology, and Obstetrics, Volume 140, page 607, April 1975), discusses the philosophy of surgical excision of tumors in light of more recent knowledge. Patterson points out that surgeons have mastered techniques for excision of bulky tumors, even with lymph node extension. But he goes on to state that massive resections around a small tumor is a mistake; he says "surgeons must modify their conviction that removal of every malignant cell is necessary for a cure". Tumor cells exfoliate even in small tumors and have left a local area; the body's

defenses, not the scalpel, have to deal with these already spreading tumor cells. Patterson heretically goes on that surgeons should remove lymph nodes for diagnosis and for relief of a bulk, but not because of necessarily effecting a better cure. The thrust of this interesting editorial is that in light of modern knowledge—

immunology of tumors, etc.—less radical procedures may be better than massive surgical resections customarily done in some situations.

The way to successful oncological therapy may well be in the hands of immunologists rather than surgeons in the future.



MEDICINE IN THE



THE MONTH IN WASHINGTON

The American Medical Association brought the concerns of American medicine to the attention of the Congress a number of times during the season of the Harvest Moon.

At a hearing before a House Judiciary Subcommittee looking into the charge that federal agencies may be taking too much power into their own hands, the AMA testified that "although potentially inherent in many agencies, abuses have become more obvious in the health agencies during the past 10 years."

Raymond T. Holden, M.D., Chairman of the AMA Board of Trustees, said the many health programs Congress approved during this time "because of the complexity of the solutions inherent, were often mere skeletons. In its haste to provide operational programs, Congress often has allowed executive agencies and bureaus to add the flesh."

As a result, Dr. Holden said, the final program often is "unrecognizable" from what Congress had in mind. He charged there has been intentional non-conformance with Congress' intent, "an insatiable appetite for more regulation" in which the bureaucracy "runs amok by attempting to regulate any activity which touches upon, influences, or is affected by the Congressional program." The time is long overdue to put a stop to regulatory abuse, the AMA official told the Subcommittee.

Dr. Holden pointed to the Health, Education and Welfare Department's actions on Utilization Review. After withdrawing the initial proposal for hospital pre-admission certification, strongly opposed by the AMA, the Department went ahead with final rules that were "equally objectionable" in requiring review of all patients within 24 hours. Dr. Holden said provisions of the basic Medicare law were "improperly invoked" and irrelevant provisions of other programs were "imperiously used" by HEW. The AMA brought suit and was successful in obtaining a preliminary injunction upheld on appeal.

Edgar T. Beddingfield, M.D., Vice Chairman of the AMA's Council on Legislation, told the Subcommittee the AMA is backing a measure to amend the Administrative Procedures Act to require agencies to follow certain procedures. The bill, introduced by Rep. Thomas Kindness (R-Ohio), calls for adequate time for comment, and expands the type of governmental actions that would come under the rule-making regulations. The bill (H.R. 10301) requires the agency to include "the rationale in accepting, rejecting, or accepting in modified form the comments received by the interested parties." Dr. Beddingfield said this is to "assure that the agency not indulge further in its practice, often utilized, of rejecting out-of-hand comments with which it does not agree..." Any final rule substantially changed from its proposed form would have to

go through the process as a proposed rule to allow comment, he said.

* * * *

The AMA told Congress it is time to improve the health of Indians.

"The Association believes that today, when the nation appears ready to correct some of the wrongs done the first Americans, there is an opportunity to bring the health status of the American and Alaskan Native to the level of the general population, rather than remaining decades behind."

Robert B. Hunter, M.D., a member of the AMA Board of Trustees, said the Indian Health Service "has done well with what it has, but it does not have enough." Dr. Hunter, testifying before the House Subcommittee on Indian Affairs, endorsed legislation before the House and Senate to improve health services for Indians.

In the past, increases in the budget for Indian health services have done little more than keep up with inflation, the physician told the lawmakers. "They have enabled the Service to maintain its health care system, but not to improve it." Only a few new facilities have been built or old ones modernized, Dr. Hunter noted.

Based on extensive studies by the AMA and others, Dr. Hunter said, one solution to the manpower needs must be to attract more Indians to the health professions. He supported provisions in the measures to train more Indian physicians through scholarships and in other ways.

Changes were recommended to allow employment of private health professionals on a contract basis to meet backlogs in health care services needed by Indians. An immediate construction and modernization program for health facilities was endorsed as well as provisions requiring Indian participation in planning and program operation.

He urged passage of a provision for a one-year study to investigate alcoholism and mental health among Indians.

* * * *

Bills before Congress to impose additional regulations on lobbying activities were opposed by the AMA as "unnecessary and discriminatory."

The goal of the legislative proposals for "open government" could be defeated by the reform plans which could stifle legitimate and needed contacts of citizens and their organizations with

the Government, Executive and Congress, the AMA said.

In a statement for the House Judiciary Subcommittee considering the issue, the AMA noted the multitude of federal health programs that involve communications by physicians and their organizations with the Government. "This access is necessary in the future to assure the maximum input of the expertise and experience of the physician and of his practical concern for the individual beneficiary," the AMA said. "This input must not be subject to unnecessary regulation."

One upshot of the legislation would be to bring under federal controls great numbers of organizations and people who heretofore have not been considered lobbyists, including state and local medical organizations.

A provision of a major lobbying bill could control organizations with periodic publications which report on legislative and regulatory affairs, the AMA said. Such organizations would have the alternative of complying with the reporting and other burdens imposed by the bill, or to cease reporting on regulatory and legislative affairs of legitimate interest to members, according to the AMA statement.

Another provision could require the reporting of all members of organizations who contribute more than \$100 during a year, possibly including dues. "Such a requirement would be extremely onerous and in many situations compliance would be impossible," said the AMA. "These provisions of the bill would be harsh and unfair and could serve little or no purpose except harassment."

In discouraging communications with Congress, the goal of open government would be defeated, the statement declared.

* * * *

A resolution backed by the AMA has been introduced in Congress to authorize the President to designate the week of April 4, 1976, as National Rural Health Week. The resolution, aimed at spurring Congressional and public interest in rural health problems, was introduced in the House by Rep. Ed Jones (D-Tenn.) and eight co-sponsors. A resolution is slated to be introduced in the Senate soon. Other House sponsors were Reps. Bob Bergland, (D-Minn.), John Breckinridge, (D-Tenn.), Tim Lee Carter, M.D., (R-Ky.), Allan Howe, (D-Utah), James Jeffords, (R-Vt.), Matthew McHugh, (D-N.Y.),

Gunn McKay, (D-Utah), and Don Young, (R-Alaska).

* * * *

The American Medical Political Action Committee has asked the Federal Election Commission to permit political groups to solicit support or endorsement of federal candidates through communications with members without having to subject such expenditures to the disclosure requirements of the law.

Rex Kenyon, M.D., a member of the AMPAC Board of Directors, told the Commission the Elections Law approved by Congress provides that contributions or expenditures "shall not include communications by a corporation to its stockholders and their families or by a labor organization to its members and their family on any subject." Another section provides that expenditure does not include "any communication by a membership organization...to its members..."

However, Dr. Kenyon said, the Elections Commission would appear to limit the directive of Congress allowing communications on any subject to prohibit the endorsement or solicitation of support for a federal candidate or office-holder. "We believe this is unwise," he said.

Stressing that AMPAC "has no objection whatever to the full disclosure of any and all of its activities," Dr. Kenyon said AMPAC would like to assure its members "that they can participate openly and freely without fear of being in violation of unduly restrictive laws and regulations."

* * * *

Quick action has been urged by the House Health Subcommittee staff to block rollbacks in Medicare reimbursement rates for physicians during the current fiscal year.

Charging that the HEW Department's index for calculating reimbursement has had the "unintended and unanticipated effect" of pushing some current payment levels below those of last year, the staff said in a report that Congress will have to move quickly "in order to make it as administratively feasible as possible to modify the current situation."

The subcommittee, headed by Rep. Dan Rostenkowski (D-Ill.), voted tentative agreement on amending the index "so as to preclude any rollback of fiscal year 1976 prevailing fees below fiscal year 1975 prevailing fees."

The change was one of the major goals sought

by the AMA in testimony before the Subcommittee last month. The Administration had acknowledged the problem, but refused to support legislation to correct it, merely noting that the rollback problem would not reoccur in future updates of prevailing charge screens.

In a staff document, the Ways and Means Subcommittee noted that the economic index for physicians' fees was not issued by HEW until last April. Almost two and a half years since the enabling legislation was passed. Only 30 days were then allowed for comment from interested parties, a time squeeze that generated such criticism that the regulations were the subject of hearings by the Subcommittee June 12 and then last month.

"It should be pointed out that if HEW had not delayed so long in implementing the regulations, there would not have been any rollbacks in prevailing charges," the report said.

One of the major criticisms levelled at the rollback by the staff was the effect on physician acceptance of assignment under Medicare.

"It is predictable that the rollbacks will further discourage physicians from accepting assignment" and "result in an even further decrease in the assignment rate with the consequence that beneficiaries will pay an even larger proportion of their medical bills out-of-pocket," said the report.

To illustrate how the rollback operates, the report said a beneficiary or a physician who was paid \$20 for an office visit in fiscal year 1975 may get only \$18 in the current fiscal year 1976.

Beyond the rollback question, the staff pointed out that members of the medical profession (including the AMA) "expressed great concern over the individual indices used to make up the overall index" which was designed to gear Medicare reimbursement with rising costs of living in general. Critics contended that the indices "did not fairly represent their increases in practice expenses. In particular, the index does not allow for the increases in malpractice insurance premiums physicians have experienced."

Edgar T. Beddingfield, M.D., Vice Chairman of the AMA's Council on Legislation told the Subcommittee last month that the physician's fee index developed by HEW was an "abuse of the regulatory process." Dr. Beddingfield urged that the economic index be repealed.

* * * *

A catastrophic-oriented national health insur-

ance plan has been introduced into the Senate by Russell Long (D-La.) and Abraham Ribicoff (D-Conn.).

The bill, much the same as last year's version, was co-sponsored by 11 other Senators including Senate Majority Leader Mike Mansfield (D-Mont.), Senate GOP Leader Hugh Scott of Pennsylvania, and Senator Herman Talmadge (D-Ga.), Chairman of the Finance Subcommittee on Health.

The Long-Ribicoff bill has been the dark horse challenger in the NHI picture, opposed by all of the major outside groups offering NHI programs. It is especially repugnant to labor, and has been fought by the Administration. As the bi-partisan list of Long-Ribicoff sponsors indicates, however, the measure has a lot going for it in the Senate where it ranks with organized labor's Health Security Act championed by Sen. Edward Kennedy (D-Mass.) as a contender.

Long waited a long time to put in his bill this year, prompting speculation he figured NHI was a dead issue or that he had changed his mind about his bill. As it turned out, Long chose an introduction time when interest appeared to be reviving on Capitol Hill for a catastrophic approach to NHI.

Cost of the bill was put at \$7 billion yearly.

The Administration held off submission of an NHI plan this year, but is almost sure to offer a plan next year similar to the Administration's old CHIP bill. The other major NHI recommendations before Congress include the American Medical Association's Comprehensive Health Care Insurance Act, Labor's bill, the American Hospital Association's plan, and the Health Insurance companies' NHI proposal.

Under the Long bill:

*All people would be covered by a catastrophic protection provision that would pay for everything above the cost of 60 days in a hospital or \$2,000 in expenses.

*A uniform national benefit and eligibility structure with heavier federal contributions that would reshape the present Medicaid program and broaden it to include the "working poor."

*Private health insurance carriers would have to meet government standards to qualify for participation in the catastrophic and other federal health programs.

The catastrophic insurance could be provided

by either the government through a one percent payroll tax or through employers' own insurance plans in which case employers could receive a 50 percent tax rebate. A separate Social Security trust fund would finance this provision.

* * * *

Private health insurance organizations do a better and cheaper job of handling Medicare bills than the Social Security Administration, according to a General Accounting Office (GAO) report.

High federal pay and administrative inefficiencies were blamed for Social Security's poor showing in comparison with private organizations.

The report was sent to the House Ways and Means Committee which requested it last year. The Ways and Means Health Subcommittee will open Autumn legislative hearings soon on National Health Insurance. A major issue is whether a Social Security-financed catastrophic program should be part of NHI.

The GAO is an agency of Congress that investigates the activities of the Federal Government as a function of Congress' oversight role.

GAO compared the SSA's Bureau of Health Insurance performance and cost for 1973 with that of four contract intermediaries—Mutual of Omaha, Travelers, the Maryland Blue Cross Plan, and Hospital Service Corporation (the Chicago Blue Cross Plan).

The GAO report found that the average cost, excluding audit, of a bill processed by SSA was \$12.39 compared to \$7.31 for Travelers, \$7.28 for Mutual, \$3.81 for Chicago, and \$3.55 for Maryland.

Social Security and intermediaries like Travelers and Mutual serve providers in a number of states, thus requiring field offices, and serve a higher percentage of skilled-nursing facilities, whose bills are considered more difficult to process than hospital bills, GAO said. "Such intermediaries can be expected to have higher costs than Blue Cross Plans, which primarily serve hospitals in only one state or part of a state," the report said.

GAO said it believes the Committee should allow HEW to redesignate an intermediary "when because of geographic dispersion, the provider's selection appears to inhibit efficient administration."

The report said Social Security's Administra-

tive costs "substantially exceed the costs of Mutual and Travelers. Higher salaries and lower productivity appear to be major reasons for the higher costs of the division, which, unlike the private intermediaries, had no production standards."

Social Security "generally took longer than the private intermediaries to pay bills and make final settlements with providers. Its error rate was about average," the report asserted.

Noting that personnel costs account for about 65 percent of an intermediary's expenses, GAO said Social Security personnel were consistently higher paid than personnel in comparable jobs with the four private intermediaries." For example, accountants and auditors at Social Security were paid \$21,600 compared with an average \$15,900 in the private groups. Social Security claims examiners got \$11,600 compared with \$7,900; Registered Nurses \$13,600, compared with \$11,700.

Social Security's annual compensation exceeded the average annual compensation of the four private intermediaries by 36 percent for accountants and auditors, 47 percent for claims examiners, and 16 percent for Registered Nurses, the report said.

* * *

Guide to Documentation Requirements In the Medical Record

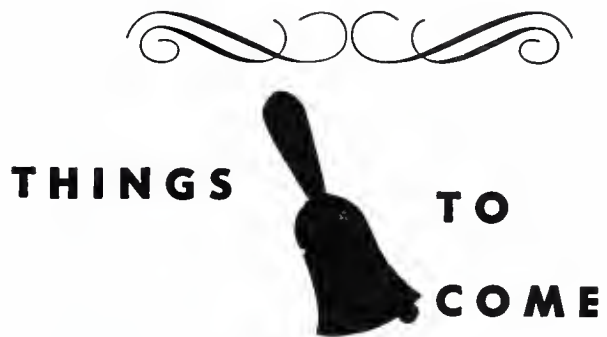
The American Medical Record Association announces the publication of *Guide to Documentation Requirements in the Medical Record*. Meeting the need for a reference compilation of the laws and standards of various regulatory and accrediting agencies, this valuable 98-page work was originally produced by the Maryland Medical Record Association.

The guide serves as a timely reference to requirements for documenting particular aspects of medical care in a patient's/resident's medical record. For ease in usage, it is divided into six separate sections, each of which deals with different types of health care facilities: acute care; psychiatric; skilled nursing; alcoholic; mental retardation and intermediate care. Each section lists and references documentation requirements as prescribed by JCAH, Federal standards and Medicare. Open columns are provided for insertion of specific state documentation requirements. It also includes regulations or standards concerning statistics, filing, indexing, record re-

tention and staffing.

Regulations cited can be quickly and conveniently referred to since they are referenced by source, according to numbering systems used in the source. A bibliography provides sources cited, and a special directory section lists addresses.

The guide is available at \$6.00 per copy from the Order Unit, American Medical Record Association, Suite 1850, 875 North Michigan Avenue, Chicago, Illinois 60611. All orders must be prepaid.



Third Annual Hair Transplant Symposium and Workshop

The American Society for Dermatologic Surgery, the American Academy of Facial Plastic and Reconstructive Surgery, and the American Association of Cosmetic Surgeons are cosponsoring this conference which is designed to offer an opportunity for the exchange of ideas among various disciplines and to present the latest advances in techniques on hair transplantation. It will be held February 13th and 14th, 1976, at the Stough Dermatology and Cutaneous Surgery Clinic, P.A., Doctors Park, Hot Springs, Arkansas 71901. Attendance will be limited. Faculty will include: dermatologists, otolaryngologists, regional and general plastic surgeons. For further information contact: D. B. Stough, III, M.D., Program Director (address listed above).

Koch Centennial Symposium

A two-day Medical Horizons Symposium on "Challenges of Ambulatory Care of Tuberculosis" is scheduled February 20-21, 1976, at the Hilton Hotel, Baltimore, Maryland. Speakers include Wallace Fox, Director of the British Medical Research Council, Tuberculosis and Chest Diseases Unit, London, and D. A. Mitchison, Professor of Bacteriology and Director of the Department of Bacteriology, Royal Postgraduate Medical School, London. Apply: David Glasser, M.D., Baltimore City Health Depart-

ment, Room C-231, Baltimore, Maryland 21202. Phone AC 301 396-4436.

Pediatrics Prespective 1976 — Infectious Diseases

Booth Memorial Medical Center and New York University Postgraduate Medical School will offer a course entitled "Pediatrics Prespective 1976 — Infectious Diseases" from January 8 through February 12, 1976.

The course is designed to assist practicing pediatricians and general practitioners to improve and update their knowledge and skills in diagnosis, management and the prevention of some of the more serious infectious diseases encountered during infancy, childhood and adolescence.

Tuition fee is \$75. The course meets the criteria for nine hours in Category I for the Physician's Recognition Award of the American Medical Association. Applications and a detailed brochure of the course may be obtained from the Office of the Associate Dean, New York University Postgraduate Medical School, 550 First Avenue, New York, New York 10016; or telephone AC 212 679-3200, extension 4037.

American College of Legal Medicine Meeting

The annual meeting of the American College of Legal Medicine is scheduled for May 12-15, 1976, at the Castle Harbour Hotel, Bermuda. For detailed information on the meeting, and information on arrangements and charter flights, contact Don Harper Mills, M.D., J.D., FCLM,

President, American College of Legal Medicine, 1340 North Astor Street, Suite 2608, Chicago, Illinois 60610.

National Conference on Radiation Oncology

The American Cancer Society is sponsoring the National Conference on Radiation Oncology, Present Status and Future Potential. The conference will be held at the San Francisco Hilton and Tower, San Francisco, California, on May 27-29, 1976. The conference meets the criteria for 16 hours of credit in Category I for the Physician's Recognition Award of the American Medical Association, and 16 elective hours by the American Academy of Family Physicians.

Sessions are open to all members and students of the medical and dental profession. Advanced registration is requested. There is no registration fee. For further information contact Sidney L. Arje, M.D., American Cancer Society, 777 Third Avenue, New York, New York 10017.

* * *

WATS LINE

Effective January 1, 1976 the Library of the University of Arkansas for Medical Sciences dropped the WATS telephone system. The Library will continue to assist health care practitioners to receive library service. Any health care practitioner can request reference or loan service or non-emergency poison/drug information by calling 664-5000 ext. 861. This number will be changed in March and an announcement will be placed in the news items of this journal.



O B I T U A R Y

Dr. Deane D. Wallace

Dr. Deane D. Wallace of Little Rock died November 10, 1975, at the age of fifty-nine. He was a practicing gynecologist in Little Rock.

Dr. Wallace was a 1941 graduate of Vanderbilt University School of Medicine, Nashville, Tennessee. He was a member of the Pulaski County Medical Society, Arkansas Medical Society and the American Medical Association.

Dr. Wallace is survived by his wife, Frances.

Dr. John G. Cullins

Dr. John Graydon Cullins of Little Rock died November 28, 1975, at the age of eighty-one.

A 1917 graduate of the University of Arkansas School of Medicine, Dr. Cullins practiced neuropsychiatry and radiology.

He was a member of the Fifty Year Club of the Arkansas Medical Society, the Pulaski County Medical Society, the American Medical Association, American Radiological Society, American Psychiatric Association, Association of Military Surgeons, and a former member of the State Pharmacy Board. He was also a Mason and a member of the American Legion and Reserve Officers Association of the United States.

Dr. Cullins is survived by his wife, Alma, a brother, and three sisters.



PERSONAL AND NEWS ITEMS



Dr. G. Thomas Jansen, Little Rock, president-elect of Southern Medical Association.

Dr. Jansen is S.M.A. President-elect

Dr. G. Thomas Jansen of Little Rock has been named president-elect of the Southern Medical Association, it was announced in Miami Beach recently. Dr. Jansen has been active in the Arkansas Medical Society and, in addition to his private dermatology practice in Little Rock, he is chairman of the Department of Dermatology at the University of Arkansas College of Medicine.

Dr. Bost Witness for Vice President's Forum

Dr. Roger Bost of Little Rock, associate dean of the University of Arkansas College of Medicine, was a witness before a forum chaired by Vice President Rockefeller on health care costs and services delivery. Dr. Bost was one of three witnesses called from Arkansas.

Dr. Farrar is Distinguished Harding Alumnus

The Harding College Distinguished Alumnus award was presented to Dr. Henry C. Farrar of Searcy, at the college's recent homecoming activities.

Doctors Receive A.A.F.P. Fellowship

Dr. Fred C. Inman of Carlisle, and Dr. Clifford

L. Evans of Morrilton, have been named Fellows of the American Academy of Family Physicians.

Physician Relocates

Dr. Frederick P. Feder of Fort Smith has announced the relocation of his office for the practice of pediatric and adult urology to 720 Lexington Avenue in Fort Smith.

Dr. Gupta Honored

Dr. Surinder Gupta of Hot Springs received the "Doctor of the Year" award from the Garland County Medical Assistants Society. The Award was presented during the Medical Assistants' "Bosses Night" banquet in Hot Springs.

Dr. Williams' Surgery Technique Highlighted

A technical paper presented at the national meeting of the Association for Academic Surgery covered a technique developed by Dr. Doyne Williams, associate professor of surgery at the University of Arkansas College of Medicine in Little Rock.

Dr. Johnson Receives Fellowship

Dr. David M. Johnson of Searcy was awarded a Fellowship in the American College of Chest Physicians in October. The honor was bestowed on Dr. Johnson in recognition of his work in the Arkansas State Health Clinics, particularly in the area of tuberculosis and other complaints of the pulmonary system.

Dr. Quittner Honored by Clinicians

Dr. Howard Quittner of Little Rock has been named "Clinical Scientist of the Year" for 1975 by the Association of Clinical Scientists. The award was presented at the Association's recent meeting in Philadelphia.

Dr. Harbison is Speaker

Dr. James Harbison of Dardanelle recently discussed total health care at the conclusion of study on the medical mission of the First Baptist Church of Dardanelle.

Dr. Landrum on EMS Public Hearing Panel

Dr. Samuel Landrum of Fort Smith, chairman of the State's Advisory Council on Emergency

Medical Services, represented the Advisory Council at a recent public hearing on proposed regulations for ambulance services in Arkansas.

Dr. Stuteville to Practice in Yellville

Dr. Orion Stuteville of Leslie has agreed to help provide the community of Yellville with additional family practice coverage. Dr. Stuteville will provide part-time patient coverage on a temporary basis until the community acquires a full time physician.

Dr. Hudson Honored by Grand Lodge

Dr. William A. Hudson of Jasper was recently awarded the Grand Lodge of Arkansas' Medal of Honor. The award was presented at the Masonic Lodge's 134th annual meeting held in Little Rock.

Members Participate in Crib Death Project

Two Society members, Dr. T. E. Townsend and Dr. Horace Green, both of Pine Bluff, participated in a project relating to the Sudden Death Syndrome in Arkansas. The project is a coordinated effort studying crib deaths in the State by the State Health Department, the State

Medical Examiner's Office, and the University of Arkansas for Medical Sciences.

Internal Medicine Specialist Meeting Held

The Arkansas Regional Meeting of the American College of Physicians was held in Little Rock in November to assist physicians in keeping up with advances in internal medicine. Arrangements for the meeting included efforts by Drs. Charles M. Boyd, William E. Harville, and Robert Power of Little Rock; Dr. Monroe B. Painter of Fayetteville; Dr. Allan S. Pirniquie of El Dorado; and Dr. Taylor A. Prewitt of Fort Smith.

Drs. Knight and Long Present Paper

Dr. W. E. Knight, senior orthopaedic surgeon of Holt-Krock Clinic in Fort Smith, presented a paper, "The Use of Antibiotic Impregnated Bone Cement in Total Joint Replacement," at the fall meeting of the Arkansas Orthopaedic Society on November 8th at Eden Isle. The paper was co-authored by Dr. Knight and Dr. James W. Long, also of the Holt-Krock Clinic Orthopaedic Department. Dr. Long presented the paper at the Clinical Orthopaedic Society meeting in Oklahoma City on October 2nd.



Dr. Michael Lawrence Hawkins

The Baxter County Medical Society has added the name of Dr. Michael L. Hawkins, a native of Tampa, Florida, to its membership roll.

He attended Emory University College of Arts and Sciences, Atlanta, Georgia, from 1961 until 1964, and was graduated from Emory University School of Medicine in Atlanta in 1968. Dr. Hawkins completed his internship at the United

States Naval Hospital, Great Lakes, Illinois, and his residency in General Surgery at the United States Navy Hospital in Portsmouth, Virginia. He served in the Navy from 1967 until 1975. He is Board Certified by the American Board of Surgery and a candidate of the American College of Surgery.

Dr. Hawkins is practicing General Surgery at 812 Baker Street in Mountain Home.

Dr. Richard M. Kuharich

The Boone County Medical Society has accepted Dr. Richard M. Kuharich for membership. He is a native of Chicago, Illinois.

In 1959, Dr. Kuharich received a B.S.E.E. degree from Northwestern University, Evanston, Illinois. He completed his pre-medical education at Northwestern University — Evening Division, and he was graduated from the Northwestern University Medical School in Chicago in 1969. Dr. Kuharich's internship was completed at the United States Army Madigan General Hospital

in Tacoma, Washington. He completed an Ophthalmology residency at the University of Kentucky Medical Center, Lexington.

Dr. Kuharich is now practicing Ophthalmology at 707 North Vine Street in Harrison.

Dr. Earl B. Riddick, Jr.

Dr. Earl B. Riddick, Jr., is a new member of the Washington County Medical Society. He is a native of Harlington, Texas.

Dr. Riddick received a B.S. degree in 1961 from Arkansas State Teachers College, Conway, and he was graduated from the University of Arkansas School of Medicine in 1969. He completed both his internship and a residency in Radiology at the University of Arkansas Medical Center in Little Rock.

Dr. Riddick is practicing Radiology at 1617 North College, Fayetteville.

Dr. Wallace A. Thomas

The Garland County Medical Society has accepted Dr. Wallace A. Thomas, a native of Paterson, New Jersey, for membership.

Dr. Thomas attended the University of Arkansas and received his B.S. degree in 1964. He was graduated from the University of Arkansas School of Medicine in 1969. Following his internship at the University of Arkansas Medical Center in Little Rock, Dr. Thomas completed an Ophthalmology residency at the University of Alabama and Eye Foundation Hospital. He served in the United States Air Force from 1959 until 1971. He is a member of the American Association of Ophthalmology.

Dr. Thomas practices Ophthalmology at 312 Saint Louis Street in Hot Springs.

Dr. K. K. Jayaraman

Dr. K. K. Jayaraman is a new member of the Garland County Medical Society. He is a native of Chavakkad, Kerala, India.

Dr. Jayaraman received his pre-medical education at Sreekerala Varma College, Trichur, India, and Maharaja's College, Ernakulam, India. He was graduated from the Medical College Kerala University, Calicut, India, in 1963. Following his internship at the same institution, he completed an internship at Edgewater Hospital, Chicago, Illinois. In 1966, he was a resident in general practice at the Norwegian American Hospital in Chicago. From 1967 until 1970, he was a resident in Internal Medicine at the

Veterans Administration Hospital in Hines, Illinois. Dr. Jayaraman completed his residency training in Cardiology in 1972 at Loyola University Hospital in Maywood, Illinois.

He is Board Certified by the American Board of Internal Medicine, and the American Board of Cardiovascular Disease. He is a member of the American College of Physicians, and a Fellow of American College of Chest Surgeons, American College of Cardiology, American College of Angiology, and International College of Angiology.

Dr. Jayaraman is now practicing Cardiology and Internal Medicine at 110 Hawthorne in Hot Springs.

Dr. Harry T. Hutchinson

The Washington County Medical Society has accepted Dr. Harry T. Hutchinson for membership. He is a native of Vicksburg, Mississippi.

Dr. Hutchinson graduated from Millsaps College, Jackson, Mississippi, in 1953 with a B.S. degree. He was graduated from the University of Texas Southwestern Medical School, Dallas, in 1957. He completed both his internship and residency work at Parkland Memorial Hospital in Dallas.

Dr. Hutchinson practiced in Dallas and Galveston, Texas, for seventeen years. He served as assistant professor of Obstetrics and Gynecology at the University of Texas Medical Branch, Galveston, from 1961 until 1974. He is Board Certified by the American Board of Obstetrics and Gynecology.

Dr. Hutchinson is in Family Practice at 304 South Maxwell, Siloam Springs.

* * *

The following are new intern and resident members of the Pulaski County Medical Society:

University of Arkansas College of Medicine:

Frank J. Wilson, Jr., Resident — Internal Medicine.

Paul J. Baxley, Intern.



ANSWER—Electrocardiogram of the Month

Loss of R wave in precordial leads and ST segment elevation indicating acute anterior myocardial infarction. Left axis deviation indicating a left anterior fascicular block is present.



BOOK REVIEWS

Vida H. Gordon, M.D.*

CURRENT THERAPY OF ALLERGY, by Claude Frazier, M.D., Ed. Flushing, N. Y., Medical Examination Publishing Company Inc., 1974

This is a compendium of current concepts related to all phases of allergy and contributed by 88 different physician allergists. The commoner atopic diseases, eczema, allergic rhinitis and asthma are dealt with exhaustively, each by three allergists to give the variation of viewpoints in the management of these disease entities. In addition, and in the same manner, the areas of chronic bronchitis, emphysema, non-asthmatic lung disease, drug allergy, urticaria, food allergy, headaches, physical factors in allergy, the allergic child in camp, psychosomatic aspects of allergic disease, anaphylaxis and prophylaxis of allergic disease in children are treated.

Considerable specific and detailed information is given regarding treatment of all the disease entities, making this book a very good reference

*Professor Emeritus, Department of Pediatrics, University of Arkansas College of Medicine, 4301 West Markham, Little Rock, Arkansas 72201.

for the physician in family practice, pediatrician, and the internist.

Of particular interest to the Arkansas physician is the chapter written by Alan G. Cazort and Purcell Smith, Jr., along with three other allergists from other parts of the country, "Office Management of Chronic Asthma in Adults." The section of this chapter, p. 123 presented by Drs. Cazort and Smith, is concrete, very descriptive of the problems in chronic bronchitis and very practical as to treatment, especially for Arkansas physicians, many of which have been taught allergy by one or both of these physicians in medical school.

A major criticism might be that the discussions of definition, etiology, epidemiology, pathogenesis, medicine, prevalence and prognosis are too brief. On the other hand, as the editor stated in the preface, "the major emphasis is placed upon practical solutions to allergic symptoms commonly encountered in everyday medical practice" so perhaps this is justified. In any one volume it is difficult to deal in equal depth in both the symptomatology of disease entities as well as their treatment.

The cost of this book is only \$15.00, and since it is to be essentially an annual treatise on current therapy of allergy, I would recommend that the practicing physicians purchase it at least every other year, because the field of allergy and immunology is a rapidly changing field.



February, 1976

THE JOURNAL OF THE Arkansas MEDICAL SOCIETY

Vol. 72 No. 9

FORT SMITH, ARKANSAS

100th ANNUAL SESSION
ARKANSAS MEDICAL SOCIETY
ARLINGTON HOTEL, HOT SPRINGS, APRIL 25-28, 1976

BECOTIN®
Vitamin B Complex

BECOTIN® with VITAMIN C
Vitamin B Complex with Vitamin C

BECOTIN®-T
Vitamin B Complex with Vitamin C, Therapeutic

MI-CEBRIN®
Vitamins-Minerals

MI-CEBRIN T®
Vitamin-Minerals Therapeutic

AND A WIDE VARIETY OF OTHER PHARMACEUTICALS



DISTA PRODUCTS COMPANY
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

400944

LIBRARY
C. SAN FRANCISCO

MAR 3 1976

Both often



● Predominant
psychoneurotic
anxiety

● Associated
depressive
symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent

in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium[®]
(diazepam) [ⓐ]

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

THE JOURNAL OF THE *Arkansas*

MEDICAL SOCIETY

Owned by
THE ARKANSAS MEDICAL SOCIETY
And Published Under Direction of the Council

ALFRED KAHN, JR., M.D., Editor
1300 West Sixth Street Little Rock, Arkansas

MR. PAUL C. SCHAEFER, Business Manager
214 North 12th Street Fort Smith, Arkansas

LITTLE ROCK BUSINESS OFFICE
114 E. Second St. Little Rock, Arkansas

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY

T. E. TOWNSEND, President	Pine Bluff
A. S. KOENIG, JR., President-Elect	Fort Smith
ASA A. CROW, First Vice President	Paragould
MAHLON O. MARIS, Second Vice President	Harrison
DONALD L. DUNCAN, Third Vice President	Texarkana
ELVIN SHUFFIELD, Secretary	Little Rock
KENNETH R. DUZAN, Treasurer	El Dorado
AMAIL CHUDY, Speaker,	
House of Delegates	North Little Rock
CHARLES F. WILKINS, JR., Vice Speaker,	
House of Delegates	Russellville
ALFRED KAHN, JR., Journal Editor	Little Rock
C. C. LONG, Delegate to AMA	Fort Smith
PURCELL SMITH, Delegate to AMA	Little Rock
JOE VERSER, Alternate Delegate to AMA	Harrisburg
T. E. TOWNSEND, Alternate Delegate to AMA	Pine Bluff
MR. PAUL C. SCHAEFER, Executive Vice President,	
P. O. Box 1208	Fort Smith

COUNCILORS

First District	JOHN B. KIRKLEY	Jonesboro
	•ELDON FAIRLEY	Osceola
Second District	JOHN E. BELL	Searcy
	•PAUL GRAY	Batesville
Third District	•L. J. P. BELL	Helena
	FRED C. INMAN, JR.	Carlisle
Fourth District	JOHN P. BURGE	Lake Village
	•RAYMOND IRWIN	Pine Bluff
Fifth District	•J. B. JAMESON, JR.	Camden
	JOHN H. MOORE	El Dorado
Sixth District	•C. LYNN HARRIS	Hope
	A. E. ANDREWS	Texarkana
Seventh District	•ROBERT F. McCRARY	Hot Springs
	CURTIS CLARK	Sheridan
Eighth District	WILLIAM S. ORR, JR.	Little Rock
	•W. PAYTON KOLB	Little Rock
Ninth District	•HENRY V. KIRBY	Harrison
	MORRISS M. HENRY	Fayetteville
Tenth District	KEMAL KUTAIT	Fort Smith
	•C. C. LONG	Fort Smith

*Senior Councilor

The Advertising policy of this JOURNAL is governed by the PRINCIPLES OF ADVERTISING of the State Medical Journal Advertising Bureau, Inc., by the Advertising Committee of the Bureau and by the Council of the Arkansas Medical Society.

EXCLUSIVE PUBLICATION—Articles are accepted for publication on the condition that they are contributed solely to this JOURNAL.

COPYRIGHT 1976—By the JOURNAL of the Arkansas Medical Society.

NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

SCIENTIFIC ARTICLES

Fireworks Blindness in Arkansas	357
<i>R. Sloan Wilson, M.D.</i>	
Home Management of Juvenile Onset Diabetes Mellitus	360
<i>Warren A. Skaug,</i> <i>Junior Medical Student</i> <i>and M. Joycelyn Elders, M.D.</i>	

FEATURES

Office Orthopaedics:	
“The Big Toe”	365
<i>H. Austin Grimes, M.D.</i>	
EKG of the Month	367
<i>Malcolm B. Pearce, M.D.</i>	
Toxicology Update: “Management of the Acutely Poisoned Patient, Part II, Induced Emesis”	368
<i>A. Nelson Voldeng, Ph.D.</i>	
Arkansas Public Health At a Glance, “Inservice Education For Public Health Nurses in Arkansas”	370
<i>Mrs. Sherry Ahring</i>	
Woman’s Auxiliary	370
Guest Editorial: “Thoughts on Equity”	371
<i>Kenneth G. Jones, M.D.</i>	
Medicine in the News	373
House Resolution 10641	377
Things to Come	379
Personal and News Items	381
Proceedings of Societies	383
Minutes, Council of the Arkansas Medical Society	383
Minutes, House of Delegates, Arkansas Medical Society	384
New Members	386
Obituary	386

Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72901. Published monthly under direction of the Council, Arkansas Medical Society, Volume 72, No. 9. Subscription \$2.00 a year. Single copies 50 cents. Entered as second class matter, May 1, 1955, in the post office at Little Rock, Arkansas, under the Act of Congress of March, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 1, 1918. Second-class postage paid at Little Rock, Arkansas.

Fireworks Blindness in Arkansas

R. Sloan Wilson, M.D.*

There is still confusion over the fireworks issue and whether there should be restrictions or a ban. To date there has been no permanent ban of fireworks at the federal level, although hearings are presently taking place.

After seeing several cases of blindness caused by fireworks, my interest heightened in collecting accurate and reliable data on fireworks injuries.

The purpose of this paper is to draw attention to a significant hazard, to report the results of a three-year study in Arkansas on ocular fireworks injuries, to review Arkansas' present pyrotechnics regulations and hopefully stimulate interest in the fireworks issue.

Subjects and Methods

Starting with July 4, 1973, Arkansas' ophthalmologists have been reporting eye injuries related to fireworks occurring around July 4th holidays. In 1973, this survey included only central Arkansas, and it was expanded in 1974 and 1975 to include all of the State's ophthalmologists (plus those in the border town of Texarkana, Texas). All ophthalmologists and ophthalmology residents responded and large emergency rooms were contacted for additional cases which might have been missed.

Results

Forty-six cases of July 4th ocular injuries have been recorded since the survey began and the incidence per 100,000 population is shown in Table 1. In 1973, 5 cases were recorded from an approximate 500,000 population for an incidence of 1.0/100,000 population.

In 1974, 9 cases from 2,000,000 population were added for an approximate incidence of 0.5/100,000 population.

In 1975, 31 cases in 2,100,000 population were seen, making the incidence 1.5/100,000 population.

Table 2 summarizes the number of injuries caused by various Class C fireworks.

Table 3 summarizes the age, sex and degree of injury. Contrary to popular belief, children are not the only ones hurt, although the majority (25 cases) were 14 years of age or younger. Males were injured 4 times more frequently than females. Mild cases, without significant residual visual loss or damage, were noted in 40%. Moderate injuries included visual loss and possibly mild permanent visual loss or damage and 20%

Table 1
Incidence Ocular Injuries in Arkansas
per 100,000 Population

Year	July 4th	Yearly Estimate
1973	1	2
1974	0.5	1
1975	1.5	3
Average	1 (21 cases)	2 (42 cases)

Table 2

Fireworks Type	No. Injuries
Bottle Rocket	20
Firecracker	16
Sparkler	3
Gunpowder in jar	3
Roman Candle	2
Parachute Rocket	1
Smoke Bomb	1
Total	46

Table 3
Ocular Fireworks Injuries In Arkansas
(1973-1975)

Age Range	Average Age	Males	Females
2 to 45	11	26	9
Degree of Injury			
Mild	Moderate	Severe	
18	10	18	
(40%)	(20%)	(40%)	

*From the Retina Service, Department of Ophthalmology, University of Arkansas for Medical Sciences and United States Veterans Administration Hospital, Little Rock, Arkansas.
Reprint request to: R. Sloan Wilson, M.D., Department of Ophthalmology, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72205.

fell into this category. Severe injuries were seen in 40% with definite permanent damage, visual loss, extensive surgery or enucleation.

The type of injuries varied and are summarized in Table 4. Lid lacerations, corneal abrasions and hyphemas (anterior chamber blood) were the most commonly seen. It must be stressed that some eyes harbored multiple injuries including retained foreign bodies necessitating a complete ocular examination and possibly an x-ray.

History of Fireworks Regulation

There is still confusion over whether fireworks should be regulated. The Child Protection Act of 1966 banned from consumer sales all fireworks containing more than 2 grains of powder intended to produce audible effects and, in essence, restricted the sales of cherry bombs, aerial bombs, M-80 salutes and other fireworks more than 1½ inches in length and ½ inch in diameter, as well as mail order kits to produce such fireworks. Exceptions were made for farmers who needed fireworks for crop protection. This led to widespread abuse and large numbers of fireworks were sold illegally. In an attempt to reduce the bootleg traffic, the Food and Drug Administration in March, 1973, required all fireworks for crop protection be distributed through Wildlife Management Programs administered by the Department of the Interior. The FDA's jurisdiction has since been superseded by the Consumer Product Safety Commission.

Under federal law, Class C "common" fireworks (firecrackers, bottle rockets, roman candles, cone fountains, sparklers, etc.) remain legal and subject to interstate commerce. They are still sold in about one-half of the states (including Arkansas), which have not enacted legislation prohibiting them. Even in states which have limited Class C fireworks, the statutes are not uniform, often not strictly enforced, or are illegally brought from neighboring states.

A proposal to ban all fireworks and bottle rockets, regardless of size or class, has been presented to the Consumer Product Safety Commission. Such a ban was actually applied for a short

time, but it was released in July of 1974, pending further hearings.

Agencies urging a total ban include the National Society for the Prevention of Blindness, the American Academy of Pediatrics, the American Lung Association of Hawaii and the National Fire Protection Agency.

Opposition to a proposed ban has come from individuals and the pyrotechnics industry. Fireworks are used for religious reasons in some cultures, particularly Orientals and Hawaiians. However, the most persuasive argument against banning fireworks has been that a need for the ban has not been demonstrated.¹

Review of Arkansas Fireworks Statutes

In 1961, Arkansas enacted pyrotechnics legislation (Public Health and Safety Law, 82-1701 to 82-1712) and amended this in 1963. In brief, this legislation allows the use of Class C "common" fireworks, but make it *against the law in Arkansas*:

- 1) to sell fireworks to children under 12 years of age
- 2) to sell fireworks to any drunk or irresponsible person
- 3) to throw ignited fireworks at any vehicle or near any person
- 4) to explode fireworks within 60 feet of a church, hospital, or school, or within 200 feet of a place where fireworks are sold
- 5) to sell fireworks without a permit from the Director of State Police. No permits can be issued to a person under 21 years of age.

Fireworks may be sold only from December 10 through January 5, and June 20 through July 10. Violators are punishable by a fine of \$50 to \$200 and jail up to 90 days. Enforcement falls upon the Arkansas State Police.

Consumer education and warnings have come primarily from the Consumer Protection Division of the office of the Attorney General.

Discussion

Collection of adequate data on fireworks injuries has been a difficult task. There are surprisingly few published reports of fireworks injuries and only a few detail ocular injuries.^{2,3,4}

Arkansas is an ideal state in which to record such injuries due to very small numbers using them for religious reasons, and a relatively small number of ophthalmologists covering over two million people, making such a survey possible.

Table 4

Type of Ocular Fireworks Injury*

Corneal Abrasion	53%
Lid Laceration or Burn	38%
Hyphema	38%
Lacerated Globe	23%

*Multiple injuries often occurred.

The Consumer Product Safety Commission through the National Electronic Injury Surveillance System (NEISS) estimates that there are 6,600 fireworks injuries in the United States each year (or 3/100,000 population per year). NEISS records 46% arm injuries, 21% head injuries, 18% ocular injuries. This would make 0.6/100,000 population eye fireworks injuries per year in the United States. The Arkansas survey estimated the yearly incidence of ocular injuries at 2/100,000 or over 3 times the NEISS estimate. Taking the reverse situation, and assuming that 18% of fireworks injuries are to the eye, Arkansas could expect to suffer over 200 fireworks injuries each year. I suspect this is a reasonable estimate, and possibly more could be recorded if all physicians would register their cases.

Summary

Arkansas' ophthalmologists cooperated in a survey recording 46 ocular injuries due to fireworks over the 4th of July holidays. The most common eye injuries were lid burns and lacerations, corneal abrasions and hyphema. Forty percent were severe injuries and enucleation was necessary in some cases. The severe injuries were most often related to bottle rockets and firecrackers.

From this survey, it could be estimated that Arkansas has over 40 ocular fireworks injuries yearly. Using this base (one in five fireworks injuries are ocular) one would expect Arkansas to have at least 200 fireworks injuries a year to various parts of the body.

Arkansas still permits Class C "common" fireworks to be sold with only minimal regulations

under the Public Health and Safety Laws, enforced by the State Police.

A ban at the federal level is being considered but hearings before the administration law judge to date have failed to produce significant evidence of their dangers.

Acknowledgments

I thank all of our State's ophthalmologists for their sincere cooperation in reporting these fireworks injuries. Also, Ms. Anale Yarbrough, Consumer Division of the Attorney General's office, kindly supplied information that has kept me abreast of national and local developments.

ADDENDUM

After this article was submitted, the presiding officer's report on the hearing to ban fireworks was made public.⁵ Judge Pfieffer concluded, after months of complex and conflicting testimony, that banning of Class C fireworks at the federal level was not required for the protection of the public health.

His conclusion makes it even more compelling that physicians positively influence local authorities and stress prevention of fireworks injuries.

REFERENCES

1. Hazard analysis of fireworks injuries (1313). U.S. Consumer Product Safety Commission Bureau of Epidemiology. November 1973.
2. Hatfield, E. M.: Eye injuries due to fireworks. Results of 1969 survey. *Sight Sav. Res.* 40:93, 1970.
3. Lee, R. T. T.: Firecracker injury to the eyes in Hong Kong. *Br. J. Ophthal.* 50:666, 1966.
4. Wilson, R. S.: Ocular fireworks injuries. *Am. J. Ophthal.* 79:449, 1975.
5. Consumer Products Safety Commission, Washington, D.C.: Hearing on Objections to the Proposed Regulation of Class C Fireworks. Docket No. CPSC-74-3.



Home Management of Juvenile Onset Diabetes Mellitus

Warren A. Skaug, Junior Medical Student*, and M. Joycelyn Elders, M.D.**

Introduction

The technique of quantitative urinary glucose determination on measured samples as a tool for diabetic management has only recently attained widespread use.^{1,2} The method has been found to produce a relatively accurate picture of the degree and pattern of diabetic control, and provides a more sound basis upon which to modify insulin dosages and dietary intake than spot urine checks alone. The method, like the spot urine check, is dependent upon a constant renal threshold of glucose, and a fair degree of reliability among the various colorimetric tests. Though the accuracy of these tests is subject to certain variables, including urinary osmolality and aspirin ingestion,³ their impact on good control is probably not of crucial importance. The technique has the advantage of non-invasiveness, and it is simple enough to allow most patients or their parents to periodically perform and interpret the test at home with proper instruction.

The following protocol for home management of juvenile onset diabetes is designed with the primary purpose of introducing the technique described above to home-based diabetic control. Its scope is relatively limited: diet, techniques of insulin administration, types of insulin, and many of the complications of diabetes mellitus are covered only lightly or not at all. These aspects of the disease are well presented elsewhere^{4,5,6,7} and are, of course, critical to a diabetic's understanding of his disease. The specific sequence of collections presented here is modeled after that of Forman, et al.,¹ with the entire responsibility for collection, recording, and interpretation resting with the patient and his family. It requires a fair degree of experience and knowledge of diabetes on their part, and careful judgment by the physician in assessing the degree of autonomy a given family is able to assume. But

if properly learned and utilized, the method can be a very valuable addition to a diabetic's armamentarium of control measures. It is in keeping with the concept of self management which is a hallmark of the control of this disease.

Home Management of Juvenile Onset Diabetes Mellitus

Optimal control of juvenile onset diabetes mellitus is dependent upon diet, insulin and exercise. In managing the diet and insulin schedule of a diabetic at home, two basic procedures in conjunction with the state of health of the patient are used. These are the daily double voided urine checks for glucose and acetone and the quantitative glucose determinations on measured urine samples. The use of these two basic procedures and their application in determining insulin requirements in the healthy, non-stressed patient will be outlined. This is followed by a discussion of the dietary and insulin changes necessary during illness, and a brief mention of various other factors important to good control.

Double Voided Urine Checks

Double voided urine checks should be done four (4) times daily; before breakfast (BB), before lunch (BL), before dinner (BD), and at bedtime (BT). The technique of double voiding consists of the following:

Void 20-30 minutes before the urine check is to be done, discarding the specimen. Then drink a glass of water, void again as soon as possible, and run the test on this specimen.

The five drop *clinitest* should be performed on each sample, but *acetest* is necessary only if the urine is $+4$ glucose or the patient is feeling ill, and should be continued if acetone is present until none is found. During stable periods when good control has been established, you may drop back to two checks (BB and BT) with the admonition to return to testing four times a day if there are any changes in diet or activity, or any symptoms of hyperglycemia (excessive thirst, hunger, and urination) or hypoglycemia (weakness, trembling, sweating, headache, etc.).

A record of the daily results should be main-

*University of Arkansas for Medical Sciences.

**Associate Professor, UAMS. Professional Advisory Committee of American Diabetes Association — Arkansas Affiliate.

Department of Pediatrics, University of Arkansas for Medical Sciences, Little Rock Arkansas 72205.

Mailing address: M. J. Elders, M.D., 4301 West Markham, Little Rock, Arkansas 72205.

Studies at the University of Arkansas for Medical Science were supported by USPHS grant AM 15901 and CA 13907.

tained, along with the current insulin dosage and schedule, for future reference, as follows:

Date	Insulin Type & Dosage	Time			
		BB	BL	BD	BT
9/26	NPH 50u	+4	+1	neg	+1
9/27	NPH 50u				

The results will be discussed below.

Quantitative Glucose Determinations

Quantitative determinations of urinary glucose (glucose "spill") on a measured 24 hour urine sample should be done monthly, or more frequently as indicated by the patient's control, in days which include normal diet and activities. The most useful sequence of collecting, for adjusting insulin doses, is a series of three 4-hour collections through the day, beginning with the first morning insulin dose, and an over-night urine collection.

4 hours	4 hours	4 hours	12 hours	
8:00	12:00	4:00	8:00	8:00
a.m.	Noon	p.m.	p.m.	a.m.

Procedure:

The urine is collected in a large container and measured in milliliters (ml) using a measuring cup. The amount of urine in ml is noted and recorded. Each collection of urine during a time period (e.g., 4 hours) is pooled with previous collections of the same time period and refrigerated. At the end of the time period, the entire amount of urine is mixed and a sample taken for clinitest calculations.

In calculating the quantity of glucose spilled in the urine over a period of time, one needs to know only two things: 1) The percent (%) glucose of a given sample (grams per 100 ml) as measured by the 5 drop *clinitest* and 2) the volume of urine (ml) excreted.

The ratios between *clinitest* values and grams/100 ml are as follows:

- +4 = 2% = 2 gm/100 ml or greater
- +3 = 1% = 1 gm/100 ml
- +2 = 0.75% = 0.75 gm/100 ml
- +1 = 0.5% = 0.5 gm/100 ml
- trace = 0.25% = 0.25 gm/100 ml

The total glucose spill is found using the following relationship:

$$\frac{\text{grams}}{100 \text{ ml}} = \frac{? \text{ gm glucose}}{\text{volume of urine (ml)}}$$

(Clinitest value)

This is equivalent to:

$$? \text{ gm glucose} = \frac{\text{gm}}{100 \text{ ml}} \times \text{volume of urine (ml)}$$

Example: If one has excreted 600 ml of urine and the clinitest is +1 (0.5%), then:
grams of glucose spilled

$$\begin{aligned} \text{in that time period} &= \frac{.5 \text{ gm}}{100 \text{ ml}} \times 600 \text{ ml} \\ &= .5 \times 6 \\ &= 3 \text{ grams} \end{aligned}$$

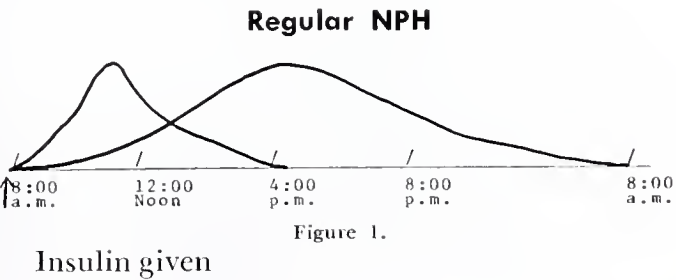
Both the total 24 hour spill and the 4 and 12 hour sub-totals provide useful information upon which to base insulin dosages and food intake. A careful record of each determination should be kept.

Adjusting the Insulin Schedule

To adjust an insulin schedule to a patient's requirements on the basis of the above procedures, you need to compare the patterns of glucose spill with the time of peak action and duration of the various types of insulin, under conditions of relatively constant food intake and exercise. You need to know the following:

Type of Insulin	Peak	Duration
1. Regular insulin	2-3 hours	5-6 hours
2. NPH insulin	6-8 hours	18-24 hours

With these values in mind, it is clear that a before lunch (BL) double voided specimen, and/or an 8:00 a.m. - 12:00 Noon quantitative urine specimen reflects most closely the period of peak action of *regular* insulin given in the morning, and the afternoon values of either test reflect the peak action of NPH insulin. Semilente insulin roughly follows the time course of regular insulin, and Lente that of NPH. Fig. 1.



Response Patterns to Intermediate Acting Insulin

Some possible response patterns to a single morning dose of NPH insulin are shown below.

Pattern 1. Glucosuria Before Lunch

	BB	BL	BD	BT
NPH	neg	+4	neg	neg
50u				

The BL urine check represents the period between breakfast and lunch—the time of peak effect of regular insulin; whereas, the NPH peak will not occur until much later in the day. If a daily pattern like this occurs, with evidence of good control throughout the rest of the day, then a dose of regular insulin with the NPH in the morning is indicated. The regular insulin dose is usually 10% of the normal NPH dose (in this case 50u NPH + 5u regular).

A corresponding quantitative glucose spill would look like this:

NPH	24 gm	4 gm	4 gm	6 gm	
50u	8:00	12:00	4:00	8:00	8:00
	a.m.	Noon	p.m.	p.m.	a.m.

If the addition of 5u regular insulin produces the following result:

	16 gm	4 gm	4 gm	6 gm	
	8:00	12:00	4:00	8:00	8:00
	a.m.	Noon	p.m.	p.m.	a.m.

with again, a +4 urine check, an additional 10% regular insulin may be added to the morning dose, making 50u NPH + 10 regular. Further evaluations and adjustments may be needed, but the principle is the same.

Pattern II. Early Morning Glucosuria

A second type pattern commonly seen is early morning glucosuria.

	BB	BL	BD	BT
NPH				
50u	+4	+1	neg	neg

This pattern represents one of two situations:

1. Insufficient insulin during the night; or
2. Too much insulin producing hypoglycemia with rebound.

This issue may be settled with an overnight quantitative determination.

1. Insufficient Insulin Pattern

4 gm	4 gm	3 gm	45 gm	
8:00	12:00	4:00	8:00	2,200 ml
a.m.	Noon	p.m.	p.m.	a.m.

When a large amount of glucose is spilled into the urine, it pulls a lot of water with it, and urine volume will probably be great, as well as the amount of glucose spilled. A pattern like this would indicate insufficient insulin coverage during the night and would require splitting of the morning NPH dose to a before breakfast, and before dinner (evening) schedule. This should be done initially by moving 30% of the NPH dose to the evening, e.g., 35 units NPH BB and 15u NPH BD to cover the night hours (70/30 split). This schedule can then be evaluated and modified accordingly.

2. Excess Insulin Pattern

2 gm	2 gm	1 gm	2 gm	
8:00	12:00	4:00	8:00	300 ml
a.m.	Noon	p.m.	p.m.	a.m.

The glucose loss here has obviously been minimal. This is reflected also in the urine volume, so the initial +4 urine check, coupled with this would lead one to suspect a period of overnight hypoglycemia (low blood sugar) with rebound hyperglycemia (high blood sugar) in the morning hours. The correction of this phenomenon lies in lowering the total insulin dosage if only one dose is being given, or lowering the evening dose (BD) if one is being administered, and/or redistributing food intake to include a larger nighttime snack. If the insulin dose is to be lowered, it should be done in 10% increments and the effect monitored before further changes are made.

There are a number of other clues as to which of these two situations (inadequate insulin vs hypoglycemia with rebound) is occurring. If an individual wakes up thirsty, weak, and nauseated, having arisen 3 or 4 times to urinate during the night, this would strongly implicate insufficient insulin as the cause of +4 BB urine, whereas nightmares, episodes of awakening with hypoglycemic symptoms, the need for a late night snack, or morning headache point strongly toward hypoglycemia with compensatory rebound. A total daily dosage of about 60 units or more of NPH insulin in a healthy, non-stressed child or adolescent would also suggest hypoglycemia with rebound as the probable cause, since very few individuals in relatively good control require more than this. Evidence such as this plus a quantitative measurement should serve well to clarify the cause of a +4 BB urine check.

Pattern III. Glucosuria Except at Times of
Peak NPH Response

BB	BL	BD	BT
+4	+4	neg	+4

This sort of pattern on a single morning dose of NPH insulin would most likely indicate an insufficient total insulin dose, but the negative reading BD, which corresponds closely to the time of peak activity of NPH insulin means that control is being achieved during that period of time and if the morning dose is increased in an attempt to cover the rest of the day, with the same food intake schedule, there is a high risk of hypoglycemia being produced in the afternoon hours, so that two changes may be necessary to correct the situation: 1) addition of a dose of regular insulin in the morning (10% of the NPH dose initially) and 2) splitting of the NPH dose to 70% before dinner (70/30). Before and after, the 24 hour fractional glucose spillage should be determined. A typical pattern would be as follows:

16 gm	8 gm	1 gm	24 gm	
8:00	12:00	4:00	8:00	8:00
a.m.	Noon	p.m.	p.m.	a.m.

The adjustments described here should be made separately and the results evaluated, before any more changes are made.

Pitfalls

There are a number of pitfalls to using the double voided urine checks alone in the management of diabetes mellitus and in using the clinitest generally. A +4 clinitest on a 200 ml volume of urine means that only 4 grams of glucose have been spilled. This could represent good control for that period of time, and so the +4 value would be misleading. In addition, it should be remembered that a +4 clinitest (5 drop method) means 2 gram/100 ml or greater. It could mean 4% or 6% or 8%, etc. Also, because of a so-called "pass through" phenomenon characteristic to the clinitest tablets, where in the presence of more than 2% sugar, the color will rapidly "pass through" bright orange to dark brown or greenish brown, careful observation of the tube is necessary while the reaction is taking place. The problem of finding the true glucose content can be solved by diluting the pure urine sample in water 1:1 (1/2 water, 1/2 urine) and running the clinitest on this mixture. If the glucose was 4% in the pure sample, it is now 2% in the diluted

sample (still +4 on the clinitest). If the pure urine is diluted 1:3 with water (1/4 urine, 3/4 water), the glucose concentration will be 1% and the clinitest will read +3 (a true indication of the amount of glucose). If there is 1% glucose in a 1/4 strength dilution, then it follows that the original sample contains 4% glucose. This can be continued until a reading less than +4 is obtained and the concentration is found. (1/8:7/8, 1/16:15/16, etc.). If a 1/16 dilution contains 1% glucose, then the original sample contains 16 times that concentration (1%). After mixing each dilution, simply use 5 drops of it as in a normal clinitest. This process need not be done with double voided urine checks, since that method is not quantitative in nature anyway, but it is helpful when trying to find the true quantitative glucose spill, and should be employed whenever you are faced with a quantity of urine that reads +4 by clinitest if a "pass through" phenomenon is encountered.

Sick Day Schedule

The discussion thus far has centered around a healthy nonstressed patient with diabetes. The insulin needs of a juvenile diabetic slowly rise and peak at adolescence to remain relatively constant during adulthood, but illness or stress can cause sharp rises in insulin requirements temporarily, and these needs must be recognized and met if control during acute illness is to be maintained. This can be accomplished by following a rather straightforward schedule. When a diabetic wakes up spilling +4 sugar and large acetone in the BB check, and feels ill (sore throat, fever, aches and pains, etc.), then an illness can be suspected and more insulin is usually required.

Our routine is to have the patient continue their usual schedule of NPH or combination insulin. In addition, regular insulin is administered according to the following table:

Age in Years	Regular Insulin Dose
2-4	5 units
5-7	10 units
8-10	15 units
11-15	20 units

These regular insulin dosages are repeated every 6 hours until the acetone clears from the double voided specimens, which should be tested just before the anticipated next dose. Alternatively, we have the patient give 1/4 of their total daily insulin dose in regular insulin every 4-6

hours, whichever is smaller, until the acetone clears.

Individual requirements vary greatly, and because it is possible that an insulin reaction (hypoglycemia) may occur, close observation during the illness is of extreme importance. Orange juice or some carbohydrate should be available at all times and the child should be encouraged to take frequent small feedings. If he is vomiting and unable to tolerate solid foods, iced Coke or Seven-Up, sipped slowly, is recommended. If this cannot be tolerated, a doctor's advice should be obtained. Patients are always instructed to inform their family physician of any serious illness whether or not there are complications related to diabetes.

Other Factors In Maintaining Control

Basic to any insulin schedule is regularity in dietary intake and exercise patterns. Individual habits and needs differ greatly but the concept of *regularity* is crucial to good control. Most commonly, a plan including three meals with an afternoon and bedtime snack proves to be acceptable. A carbohydrate snack before strenuous exercise is strongly recommended (about 200 extra calories per hour are needed) since exercise lowers blood sugar and can induce a hypoglycemic reaction. In fact, the entire dietary schedule can be modified to conform to the individual diabetic's needs. It is often more convenient to change the amount of food eaten in a given period than to adjust the insulin schedule.

In monitoring the degree of control on a quantitative basis, one must compare the grams of glucose taken in with those being lost in the urine. This can be done with the following information:

In the diet currently recommended by the American Diabetes Association, about 50% of the calories (energy) are supplied by carbohydrates, 20% by protein, and 30% by fat. This corresponds closely to the average American diet. Given the following relationship:

1 gram carbohydrate	= 4 calories
1 gram protein	= 4 calories
1 gram fat	= 9 calories

the weight in grams of sugar taken in during 24 hours can be determined if an estimate of the

total calories are made. For example, if the patient is on a 2400 calorie diet (the average amount for a lean individual), 1200 of these would be from sugar. Using the above relationship (4 cal/gram), the grams of sugar are found in this manner:

$$\frac{1200}{4} = 300 \text{ grams of sugar ingested}$$

Using these calculations, one can determine the degree of control by determining the percent of glucose spilled in 24 hours:

5% of ingested sugar or less	= excellent control
5-10% of ingested sugar	= good control
10-15% of ingested sugar	= fair control
more than 15%	= poor control

Using the above figures, 5% = 15 grams, 10% = 30 grams, etc., as a rough gauge, a urine glucose spill of less than 20 grams per 24 hours is an acceptable goal. Total calories can be adjusted up or down according to weight gain or loss in the individual, but it must be kept in mind that insulin doses must be raised or dropped proportionately. The ratio of 2 units of insulin for every 100 calories increased or decreased can be used as a rough estimate.

By using the concepts described here, we have found it is possible for most patients to obtain and maintain good control on a long term basis, and to be confident in their ability to manage most problems which might arise in relation to their disease.

REFERENCES

1. Forman, B. H., Goldstein, P. S., and Genel, M.: Management of juvenile diabetes mellitus: Usefulness of 24-hour fractional quantitative glucose. *Pediatrics*, 53:257, 1974.
2. Laron, Z.: Treatment of diabetes in children: revisited. *Pediat. Ann.* 3:63, 1974.
3. Geldman, J. M., and Lebovitz, F. L.: Test for glucosuria: an analysis of factors that cause misleading results. *Diabetes*, 22:115, 1973.
4. Chaney, C., and Elders, M. J.: Management of juvenile diabetes mellitus. *J. Ark. Med. Soc.* 72:111, 1975.
5. Eastman, D. E., Guthrie, R. A., Hare, J. W., Krosnick, A., Kristan, J. J., Shuman, C. R., and Sussman, K. E.: Roundtable - Young diabetes in your practice. *Patient Care*, 9:12, 1975.
6. Travis, L. B.: "Overcontrol" of juvenile diabetes mellitus. *Southern Med. J.* 68:767, 1975.
7. Thompson, D., and Elders, M. J.: Education of the juvenile diabetic. Department of Pediatrics, University of Arkansas for Medical Sciences, Little Rock, Arkansas.



Office Orthopaedics

The Big Toe

H. Austin Grimes, M.D.*

The big toe is usually relegated toward the end of most orthopedic text books, but its importance should be emphasized. Anyone who has had a problem with this toe can testify to the inordinate disability it can produce and its reliability as a weather barometer.

The big toe ossification centers appear about age 3 and are usually complete by age 18. It occurs about a year earlier in females. It must be remembered that the first metatarsal has its ossification center or epiphysis at the proximal end of the metatarsal whereas the other metatarsals have their epiphyses at the distal end. This may be confusing and lead to misinterpretation of x-rays when considering fractures if this point is not kept in mind. Sesamoids under the great toe appear at age 12 and hardly any are found

earlier than the 10th year. These may be bipartite and give the appearance of a fractured sesamoid when this is a normal variant.

In locomotion the big toe accelerates push-off and in abrupt stops takes the brunt of deceleration forces in the foot along with the plantar surfaces of the forefoot, (i.e., quick stops in tennis). The IP joint or the interphalangeal joint flexes more (i.e., the racing stance of swimmers) and in early and mid stance phase of gait to assist push-off. The metatarsal phalangeal joint dorsiflexes or extends more in push-off as the foot and ankle plantar flex. (Fig. 1) The two sesamoids bear the weight of the body during the late stance phase of gait and are subject to great stress.

Ingrown toenail is better treated by prevention, such as trimming the nail straight across, proper fitting of socks and shoes, and good foot



FIG. 1

hygiene. Once the inflammatory process is established, hot packs, antibiotics locally and systematically, and restriction of activities should begin. If this fails surgical excision of the hypertrophied paronychia fold is necessary. (Fig. 2) Part of the nail bed should be included in the excised wedge and skin to nail closure accomplished. V's cut in the nail and removal of the nail are inadequate procedures and should be discontinued.

Hematoma under the toenail is extremely painful and should be drained by drilling the nail bed after x-rays have ruled out a fracture. Elevation of the foot and reduced activities are indicated for two or three days.

Subungual exostosis is due to repeated trappings, i.e., basketball players, and appears malignant because of the fungating bony over-growth pushing the distal nailbed upward. Surgical excision of the mass plus part of the distal tuft shortens the toe with relatively little dysfunction.

Fractures of the distal phalanx not involving the joint or epiphysis are treated simply by relief of weight bearing and padding between the big toe and second toe to splint the fracture.

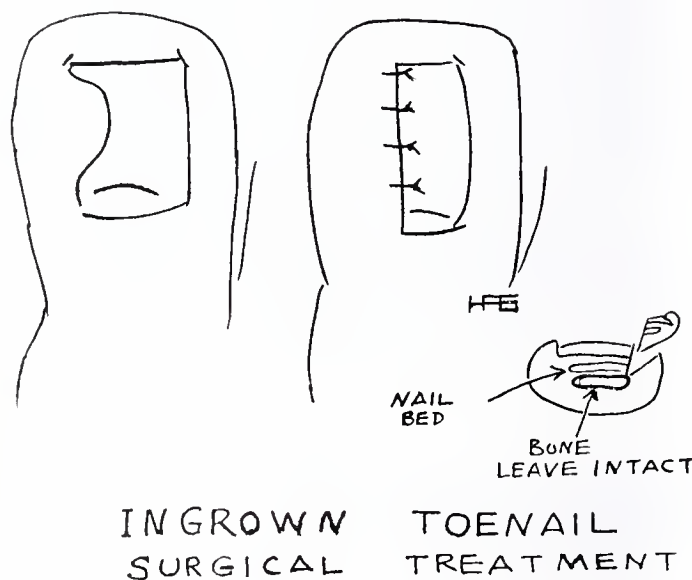


FIG. 2

Healing takes place in about three weeks but the splint may be removed at about 10 to 14 days with proper precautions being outlined for the patient.

In epiphyseal fractures, manipulation under local anesthetic should be done to gain anatomical correction and then if unstable may require Kirschner wire fixation to maintain position. Placing the K-wire alongside the tough fibrous tissue along the great toe and capsule of the toe, alongside the proximal phalanx and metatarsal may be adequate to maintain fixation without penetrating the joint or the epiphysis.

Fractures of the proximal phalanx are the most important ones to anatomically align and maintain. Frequently, local anesthesia is insufficient to allow manipulation to obtain a good reduction and the temptation is to accept something less than ideal position. Often a general anesthetic or a Ketamine-like anesthetic must be used with the K-wire alongside or within the intramedullary canal to stabilize the fracture. Usually encasement in plaster or foam backed metal splint to keep the K-wire from being bent, pulled-out, or caught on objects is maintained for about three weeks. Crutches or a walker are usually required throughout this period of post fracture management.

Traumatic arthritis of the interphalangeal joint often necessitates fusion in the neutral position and is tolerated quite well by the patient. Fusion in the metatarsal phalangeal joint, however, is not well accepted in any position. In these cases, resection of the joint or use of one of the many silastic prostheses for replacement often relieves most of the symptoms.

Fractures of the sesamoids, one or both, is better treated with an open toed shoe or clog which has a metatarsal bar on the sole to alleviate weight bearing until symptoms subside. This may take three or four weeks with persistence of some discomfort. Traumatic arthritis may occur here and with severe persistent pain, the sesamoids may be resected with some relief.





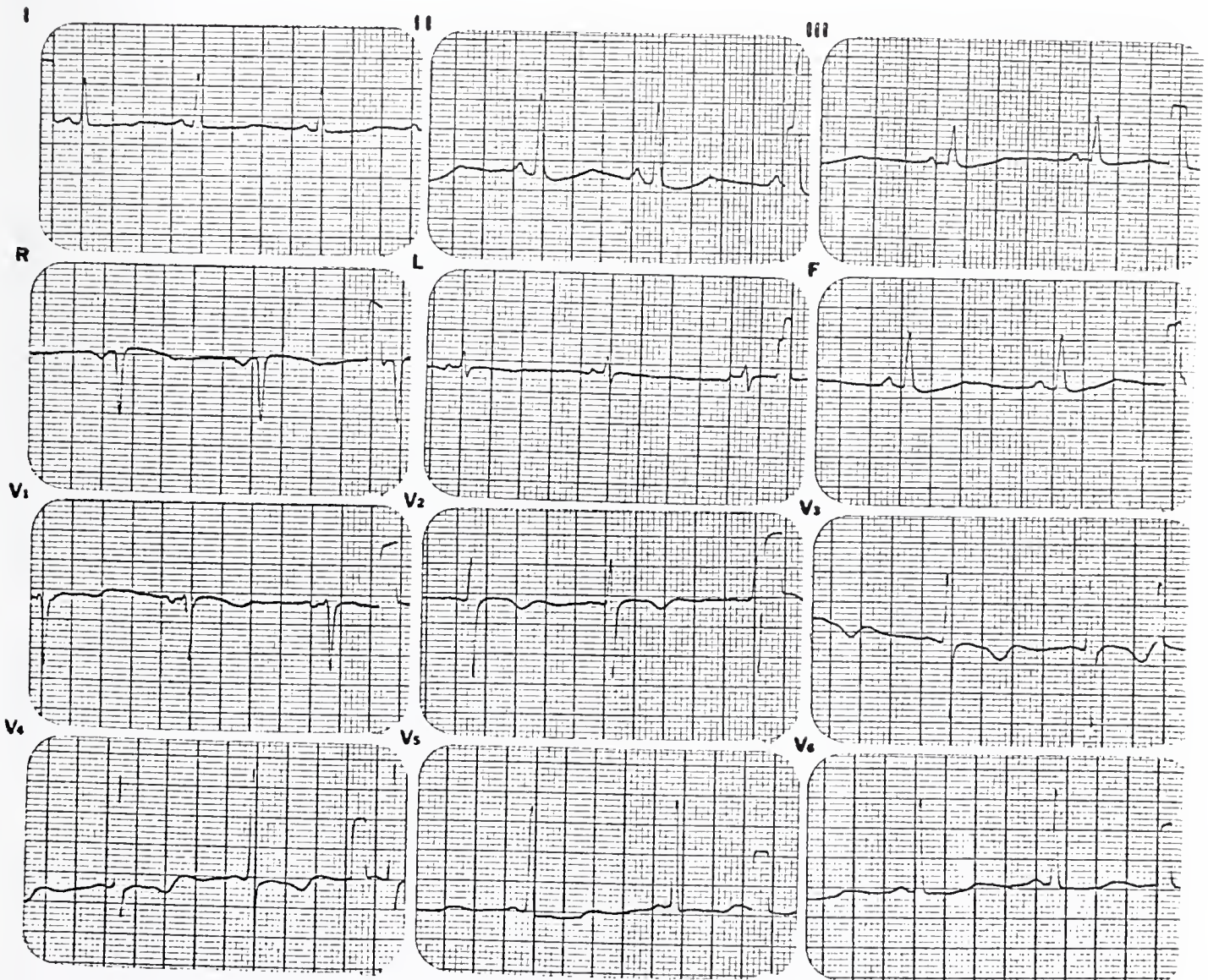
ELECTROCARDIOGRAM

OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 382)

A 52-year-old woman was admitted for cervical disc surgery. She gave a history of hypertension and intermittent diuretic therapy.



Malcolm B. Pearce, M.D.
Associate Professor of Medicine
University of Arkansas College of Medicine
Little Rock, Arkansas 72201

Toxicology Update

from the Arkansas poison control—
drug information center

Emergency poison or drug information for
health professionals only.

Pulaski County: 666-5532 • WATS: 1-800-482-8948

Management of the Acutely Poisoned Patient Part II. Alternatives to Induced Emesis

A. Nelson Voldeng, Ph.D.*

The first part of this article, which was published last month, described various methods for inducing emesis and compared their safety and effectiveness. Even the most effective emetics (apomorphine and syrup of ipecac) will recover only a fraction of material from the stomach; apomorphine produces a mean recovery of G. I. contents of 31% (range 3-95%) and syrup of ipecac produces a mean recovery of 28% (range 0-78%). This article will stress alternatives or adjunct therapy to inducing emesis in the acutely poisoned patient.

1. Gastric lavage is a renowned method of physically removing liquid or small particles of suspended material from the stomach. Most clinicians will agree that emesis is probably more satisfactory than gastric lavage in removing particulate matter (such as food, undissolved tablets or capsules, etc.) which cannot be removed through the usual stomach tube. The "end point" of lavaging is generally regarded to be a clear return of the lavage fluid. This endpoint can be erroneous as undissolved tablets or capsules are often unretrievable through the lavage tube and may be left in the G. I. tract.

Several articles have compared the effectiveness of emesis to gastric lavage in recovering drugs or chemicals from the stomach. In general, the results are about the same for both methods, however, two important differences were noted.

- (a) vomiting induced by ipecac syrup apparently reclaims material from beyond the pyloric sphincter. After clinically effective lavage (evidenced by clear return of lavage

fluid) was performed, vomiting induced by ipecac gave rise to colored fluid (bile or the color of ingested poison).

- (b) when a measured amount of fluid is given with syrup of ipecac, 84% to more than 100% of the volume was returned.

Recent articles from several authorities have advocated *not using* gastric lavage in treating poisonings due to ingestion of petroleum distillates. They believe there is greater risk of these chemicals entering the lungs by passing around the endotracheal cuff of a lavage tube than from aspiration of vomitus during forced emesis. Authorities have recommended *not* to use gastric lavage for treatment of corrosive alkali or acid ingestion, but rather to have the patient irrigate the mouth, and esophagus and to dilute stomach contents by drinking large quantities of water or milk. Attempted intubation in these patients is dangerous as it could produce perforation.

The general consensus is that gastric lavage should be considered as an alternative to emesis when the patient is not comatose or convulsing and

- (a) vomiting has not been intense or
- (b) the patient's gag reflex is absent

2. Activated charcoal is rapidly being recognized as an extremely valuable aid in the treatment of the acutely poisoned patient. This inert agent will absorb significant quantities of many drugs and chemicals, thereby retarding their absorption from the G. I. tract and preventing further systemic toxicity. Chemicals effectively bound by activated charcoal in vivo (man or animals) include acetaminophen; aspirin and

*Professor of Medicinal Chemistry, University of Arkansas College of Pharmacy, 4301 West Markham, Little Rock, Arkansas 72205.

other salicylates; barbiturates, Placidyl® and glutethimide; insecticides such as malathion and chlordane; propoxyphene; atropine; amphetamine and phenylpropanolamine; strychnine; kerosene; mercuric chloride.

Although the potential poisons listed above represent a wide variety of chemical compounds including anions, cations and nonelectrolytes, it should be stressed that the absorptive capacity of activated charcoal in vivo for most chemicals is unknown. Furthermore, activated charcoal has been reported to be a poor absorbent for cyanide, methyl alcohol, ethyl alcohol, thallium and imipramine.

Although less meaningful, in vitro experiments have shown activated charcoal to significantly adsorb cocaine, digitalis, iodine, ipecac, and various forms of arsenic, antimony, silver, mercury and tin. It is noteworthy that ipecac is included, thus activated charcoal should not be administered to a poisoned patient until *after* ipecac induced emesis has occurred.

Recent articles have reported the relative *ineffectiveness* of the Universal Antidote (activated charcoal, tannic acid, and magnesium oxide) compared to activated charcoal alone. Apparently both magnesium oxide and tannic acid, but especially tannic acid, decrease the capacity of activated charcoal to adsorb many chemicals. Even the mixing of the activated charcoal powder with ice cream (a common procedure to produce a pleasant tasting pediatric preparation) has been reported to be only 35% as adsorptive as an aqueous slurry of the powder.

There is a significant difference in the adsorptive capacity of the various brands of activated charcoal, and different adsorptive capacities of the same brand for different chemicals. These two facts make it very difficult to state an "optimal" antidotal dose of activated charcoal powder for any poisoning.

Since this is an inert material which is not adsorbed from the G. I. tract, I don't believe an optimal dosage is necessary. In fact, oral administration of an aqueous slurry of activated charcoal 5-10 times the estimated amount of ingested poison (or 15-30 grams in a slurry swallowed or by lavage) usually provides more than sufficient quantity of charcoal. Repeated administration of activated charcoal, after an adequate initial

dose described above, appears to exert no additional inhibition of G. I. absorption of chemicals.

3. Milk, particularly evaporated milk, will reduce G. I. absorption of kerosene, aspirin, pentobarbital, and strychnine, although it is less effective than activated charcoal. Milk, or similar demulcents, are recommended for poisonings due to ingestion of corrosive alkali or acid.

4. Saline cathartics are rapid acting and will speed the passage of chemicals through the G. I. tract. Many poisoning management protocols recommend magnesium sulfate (Epsom salt) 250 mg/kg orally or sodium sulfate 250 mg/kg orally for this purpose. The use of cathartics is particularly important in treating poisoning due to a sustained dosage form or enteric coated product as emesis or gastric lavage will not completely remove the product and activated charcoal will not effectively adsorb the undissolved chemical.

Summary

Treatment of the conscious, non-convulsing, acutely poisoned patient who *has not* ingested mineral acids, alkalis or strychnine should be directed to:

- (a) emptying the stomach and
- (b) limiting the G. I. absorption of the poison

Each home should have a one ounce bottle of syrup of ipecac to use in most types of poisonings. In the event the patient arrives at the hospital or physician's office and syrup of ipecac was not previously administered, apomorphine can be injected to induce emesis. Swallowing a large volume of water should precede induced emesis. If no productive vomiting occurs following induced emesis, or when emesis is contraindicated, gastric lavage should be initiated.

When emesis has become productive or completed, an aqueous slurry of activated charcoal should be administered orally to limit G. I. adsorption of any remaining poison. If gastric lavage is used, lavaging should be performed until the recovered fluid is clear and free of particles of tablets or capsules. Then an aqueous slurry of activated charcoal should be administered (through the tube) and left in the stomach.

Saline cathartics may be beneficial in decreasing G. I. absorption of drugs, especially when the poisoning involves sustained release or enteric coated products, or the toxic material has passed into the intestinal tract.



PUBLIC HEALTH AT A GLANCE

Inservice Education for Public Health Nurses in Arkansas

Mrs. Sherry Ahring*

The development and continuous improvement of the public health nurses' knowledges and skills are essential to the effective operation and progressive development of the Department of Health. The Division of Nursing maintains ongoing inservice education to provide extended training and development of public health nurses.

The inservice consultant, with the advice of the director of the Division and other major consultants, develops and assists in implementing inservice education programs for public health nurses.

Inservice education is provided four times yearly in thirteen different locations throughout the State. Attendance is required of all public health nurses employed by the agency. Inservice education sessions are directed toward improving the skills of the public health nurse to provide comprehensive health care to individuals, families and communities.

Over the past several years, the role of the public health nurse has expanded greatly. With expansion, the need for indepth skills in patient care and assessment became evident. For the past two years inservice education has placed emphasis on improving comprehensive assessment techniques of public health nurses. During inservice sessions eight standardized patient care plans were developed and continue to be implemented in the delivery of patient care services. Care plans provide an organized and systematic approach to patient care and allows the patient and family to become involved in planning care. With continuing demand for service and new programs for public health nurses to staff, the emphasis of inservice education will remain on comprehensive assessment.

Inservice education sessions for public health

nurses are now being planned for 1976. As comprehensive assessment continues educational sessions will be developed and implemented in nutrition, maternal and child health, communicable disease and chronic disease.

Inservice education also encompasses the development of courses within Health Department programs. Public health nurses are assisted in personal development, which leads to increased effectiveness and promotional opportunities within the Health Department.

With growth and change continuing for public health nurses, quality patient care and delivery of nursing services to people in the State remains the Nursing Division's ultimate goal.

One definite method to meet this goal is the continued education. Through continued education and orientation of public health nurses the Division expects to continue to contribute significant quality health services to the citizens of the State.



Craighead-Poinsett County Auxiliary

The Craighead-Poinsett County Auxiliary remembered Dr. J. H. McCurry's 104th Birthday by sending a beautiful floral arrangement. Dr. McCurry is formerly of Cash and now resides in St. Louis, Missouri. Dr. McCurry expressed appreciation to the Auxiliary "for their splendid gift".

*Public Health Nurse Supervisor, Division of Public Health Nursing, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.



EDITORIAL

Thoughts on Equity

(The lack of accountability of the claimant and his attorney)

Kenneth G. Jones, M.D.*

Many who have had occasion to reflect on the problem of obtaining "equity" under our present day system of courts, have come to recognize that the problem is rooted in a changing social philosophy. The government of the United States which until a few decades ago was securely anchored to the concept of individual responsibility now functions on an unstable concept of individual rights — i.e., needs! On occasions, it seems that the less productive the individual, the greater his right to a claim on the effort of others. This moral perversion of human relationships amounts to nothing less than the ability of a favored citizen or citizens to use the confiscatory powers of government to appropriate that which their neighbor has produced to satisfy their own desires. Or, as stated succinctly by the Communists: "from each according to his ability and to each according to his need."

Our courts to an ever increasing extent have been diverted from their original purpose of administering equity among our citizens to the purpose of satisfying the social or "economic needs" of claimants who appear before them. Judges and juries as well as plaintiffs and their attorneys have contributed to this loss of concern for "equity."

Since our society has, for the past several decades, ever moved away from freedom of the individual towards a socialistic aristocracy, it is unlikely that this course can be altered. But within even a fungating socialistic society, petty reforms may be possible. If enough of us "demand," it may be possible to reintroduce some degree of equity into the inequitable court system we now have.

As regards the very real and very intimate problem of "malpractice," several excellent legal changes have been recommended. (1) Some have suggested that disputes over alleged medical grievances be settled by an arbitration committee or that a system not unlike Workmen's Compensation, wherein a reasonable limit is placed on awards, be enacted. Why, they ask, should a person who has suffered a medical injury be awarded more than he would be for a similar injury if sustained in the course of his employment? Others have suggested restructuring the statutes of limitation and the rules concerning introduction of evidence. None has suggested that the claimant should be denied "his day in court." No reasonable person would! However, one may properly ask: "Shouldn't the claimant (the instigator) and his advocate (his attorney), under circumstances to be considered, be required to conduct themselves in a responsible manner or suffer damages for failing to act in a responsible manner?" In England the loser is required to pay his opponent's attorney fee. Responsible action by the plaintiff and his attorney would seem fundamental if the defendant is also to receive equity.

Today in a courtroom only the defendant is truly responsible in the sense that he may be held accountable, economically and morally as a consequence of the action under consideration. Even his own advocate (the defense attorney) will not lose and will as a rule profit from the action adjudicated. The judge and jury are not directly (only remotely) accountable for any action that may occur in that court on a given day. Re-election or re-appointment is at best a remote threat. The claimant has "the right" to make almost any allegation, to introduce almost any evidence he

*Little Rock Orthopedic Clinic, P.A., P. O. Box 5270, Little Rock, Arkansas 72205.

or his attorney may produce or even contrive almost without any risk of jeopardy to themselves.

From the record, it is evident that penalties for irresponsible allegations, statements, and actions made before our courts are rarely ever imposed. Only the defendant is ever in jeopardy. This is not only wrong, but justice, "equity," cannot be served under such a system of injustice.

For those who are truly seeking equity, it is obvious that our court system must be altered in some manner which will demand that claimants instigate only litigation which has merit. Failure to adhere to this social responsibility should be recognized and the offender held accountable, in a manner similar to that which he would impose on the defendant he has accused. This could be accomplished by making a plaintiff responsible to the defendant to a specified percentage of the damages he filed for but failed to recover—say 10%. Even so the claimant's exposure under such a system would still be considerably less than the defendant he brings before the bar, and he would in essence place himself on trial before the same judge and jury assembled at his demand to hear his alleged grievances. I would hope that such responsibility would make any potential claimant and his attorneys acutely aware that vindictiveness is not justification for a court action. The threat of penalty should help to bring alleged damages in line with a more reasonable expectation of recovery and perhaps eliminate altogether some suits which have no merit.

It is obvious that the plaintiff's attorney must also be made accountable. The position of the plaintiff's attorney in such an improved system of equity would become unique. It is commonly acknowledged that plaintiff's attorneys defend the system of contingent fees. Since their fee is often 33 to 50% of the damages recovered, it is apparent that their personal interest, as well as that of their client, demands that the alleged damages be filed up to and including astronomical figures in some instances. To obtain equity for the defendant, as well as the plaintiff and his advocate, it would seem fair and reasonable to alter the heretofore sheltered position of the plaintiff's attorney as follows:

The United States is one of the few major nations which permits attorneys to work on a contingent fee basis. It is obvious that when the attorney does so he assumes the position of both an advocate and a plaintiff. I would not advo-

cate abolishment of the attorney's contingent fee, since it would not be possible. It is too indigenuous, in his mind, to his welfare. Doctor Scott¹ quoting from an editorial in a Nashville paper observed: "... of the \$543,053 the company (one insurance company) paid out in malpractice suits in Tennessee in 1974, the lawyers received 60 percent or \$327,146." Under these circumstances, if the claimants were deserving, they were victims of a gross inequity before the courts. It would be enlightening to learn what fractional percentage of these attorney fees the physician's charges were. Any reasonable unbiased individual can readily discern whose interest is really served by the contingent legal fee. Such an agreement is not only immoral, it should be treated as such an act.

Even so, I would recommend that the attorney be permitted to work according to his and his client's wishes, i.e., on either a fixed fee basis or on a contingent fee basis, whichever is agreed upon between the two. In the case of the advocate who is employed on a straight fixed fee basis, I would not demand that he bear any direct responsibility for any irresponsible allegations and demands he may set forth for his claimant. Obviously, under this circumstance, he has been employed to present the claimant's allegations, ridiculous as they may or may not be. However, should he choose to work for the plaintiff on a contingent fee basis, then he has truly chosen to become a partner in the litigation (he has accepted a "piece of the action"). In those instances it should be recognized he then occupies the same position relative to the court and to the defendant as the plaintiff. Under that circumstance of employment, which he can assume only voluntarily, he should share with the plaintiff an equal responsibility for the reasonableness of their allegations. When the attorney works on a contingent fee recovery basis, he is truly a party to the action as well as the spokesman for it, and it is reasonable that he should be held accountable for the responsibility or irresponsibility of that action. A portion of the alleged damages which may be recovered become his by contract. He would be required to disclose the arrangement of employment with his client to the court, the judge, before the trial is begun. He and the plaintiff under this arrangement should be held jointly accountable to the defendant wrongfully accused.

The defendant in the American system of

courts can never again anticipate obtaining equity under our court system unless there is a radical change in the social thinking of the Nation, which is quite unlikely, or unless the plaintiff, and the plaintiff's attorney who may elect to work on a contingent fee basis, are made responsible before the courts. This is a fact.

A responsible liability defendant before the American system of courts today is truly a naked American.

REFERENCES

1. Scott, H. W.: Professional Liability — the crises and approaches to the solution. *Bull. Am. Coll. Surg.* 60:11 (Nov.) '75.



MEDICINE IN THE



THE MONTH IN WASHINGTON

The continual improvement in our health system, with its ever-increasing responsiveness to the people's needs, must not be stifled by adopting foreign-flavored elements into a national health insurance plan, the American Medical Association has told the Congress.

"When considering a national plan for this country, it is necessary to take cognizance of the strengths of our own method of health care delivery . . . this will assure that our excellent system will continue to improve and will not suffer the stifling effects experienced in other countries," AMA President Max H. Parrott, M.D., testified before a subcommittee of the House Ways and Means Committee.

Pointing to the large problems involved in creating a national health insurance program, Dr. Parrott, a Portland, Ore., practitioner, said that the public attitudes toward it are changing steadily.

"These problems have been brought into better focus as a result of evidence of the effects of governmentally administered and controlled programs both here and abroad.

"Our national priorities have also shifted because of the effects of the changing economy, and the devastating effects of inflation on all segments of our society.

"The public has expressed among its major priorities a concern with inflation, with the state

of the economy, and with crime. National polls have indicated that national health insurance is of low concern.

"During this same period of time significant changes have taken place in our health system through increased manpower programs, increased facilities construction, increased levels of private health insurance coverage, and a variety of other programs. There is fuller realization and acknowledgment that this country's health system — under attack by many in the course of the NHI debate — is indeed superior to any other in the world," Dr. Parrott said.

Dr. Parrott and Richard E. Palmer, M.D., of Alexandria, VA, and Chairman of the AMA Board of Trustees, reminded the subcommittee members of the medical profession's national health insurance plan (H. R. 6222) which builds on the structure of the present system of employer-employee group health insurance plans, mandating each employer to provide comprehensive and catastrophic benefit coverage with the employer picking up at least 65 percent of the cost.

Dr. Palmer pointed out that in pressing for the adoption of any particular NHI proposal, sincerity must not be confused with objectivity — "We cannot afford to have a program of such importance fail!

"We must avoid the mistake inherent in proposals such as H. R. 21 (Kennedy-Corman) which

would lock medicine into a rigid, monolithic, no-choice bureaucratic system. Such a creation would be impossible to reverse. It would be an undertaking full of promise but empty of fulfillment. Establishment of cost control through fixed budgets including arbitrary fee schedules would result in curtailment of care and discourage participation by providers. A look at the current trouble of the British health care system impels a close re-examination of the alleged need for such drastic action, as is embodied in H. R. 21. In our opinion justification for such a program is totally lacking!"

Alluding to other measures aimed at providing catastrophic health insurance alone, Dr. Palmer observed that 135 million Americans under 65 carried major medical insurance in 1974.

"This is the most rapidly growing form of health insurance in the nation, and the trend for such added coverage is fostered by an increasing public awareness. Consequently, we must question the need to impose on the American taxpayer and consumer a costly universal federal program of free-standing catastrophic insurance."

* * * * *

The National Health Insurance hearings on Capitol Hill have been marked so far by a notable lack of excitement or sense of urgency. The national news media has ignored the first legislative hearings of the year on NHI, underscoring contentions by many witnesses that the public doesn't rate NHI high on its scale of worries or interests.

Nonetheless, the recently announced decision that the House Interstate and Foreign Commerce Committee's Subcommittee on Health will conduct NHI hearings, brings into the open anew the odd jurisdictional dilemma that perplexes Congress in its quest for action on NHI. Rep. Paul Rogers (D.-Fla.) has announced his House Commerce Subcommittee on Health will start NHI hearings. He plans to call first the chief Congressional sponsors of the major NHI bills to testify. Rogers is telling the House Ways and Means Committee in unmistakable terms that he wants a piece of the NHI action, perhaps the big piece.

The Ways and Means Subcommittee on Health, headed by Rep. Dan Rostenkowski (D.-Ill.), will end six weeks of hearings on NHI just as Rogers gets started. Relations between the rival panels and their staff members are strained.

Since Ways and Means traditionally has had prime jurisdiction, the chief sponsors of the NHI bills in the House are for the most part members of the Ways and Means Committee. Examples include Ways and Means Chairman Al Ullman (D.-Ore.), sponsor of the American Hospital Association's plan, Rep. John Duncan (R.-Tenn.), a chief sponsor of the American Medical Association's NHI proposal, Rep. Omar Burleson (D.-Texas), foremost House backer of the Health Insurance Companies' measure, and Rep. James Corman (D.-Calif.), sponsor of Labor's Health Security Act.

None are anxious to go before the Rogers' Subcommittee in behalf of their bills, thus lending support to Rogers' jurisdictional claim.

The way health jurisdiction has been parcelled out in the House this year, Rogers can lay valid claim to much of the benefit and structural side of NHI legislation while Ways and Means has acknowledged hold on all tax financing aspects. But the question remains: Can these be separated? Most believe they can't and some special joint-committee setup will have to be formed to avoid a divisive squabble in the House pitting one major committee against another.

* * * * *

A Congressional committee trying to ascertain the causes of a large hike in premium costs for the huge Federal Employees Health Benefits Program (FEHB) has been told by the American Medical Association that physicians' long-run prices have paralleled price changes elsewhere in the economy.

William C. Felch, M.D., of Rye, N. Y., a member of the AMA Council on Legislation, told the House Civil Service Subcommittee that professional liability expense "has increased far beyond any other economic indicator."

Dr. Felch said "this skyrocketing of professional liability premiums is of necessity reflected by higher fees." He continued:

"The most recent premium increases are staggering. Increases of 100 percent are frequent, with increases ranging up to 600 percent."

Premiums of \$10,000 are not unusual today, Dr. Felch told the lawmakers. "Amounts in the range of \$25,000 to \$30,000 in the high risk specialties are not rare, as compared with \$6,000-\$7,000 a year ago. Some premiums have been reported as high as \$45,000 annually."

The other major factors in medical fee rises are the lingering effects of the economic stabilization program and economy-wide inflation, the physician said. Physicians' fees were under price controls from August, 1971 through April, 1974, he noted.

Consumer price figures for 1975 show that the percentage increase in physicians' fees has been lower than the price increases in the hospital industry but higher than the price increases in the economy in general, according to Dr. Felch.

"During the first nine months in 1975, physicians' fees increased 8.4 percent. In the same time period other health care costs were as follows: hospital service charges up 10.2 percent, semi-private room charges up 12.0 percent and operating room charges up 10.4 percent."

Dr. Felch also said utilization of physician services has risen with progress of medical technology, rising incomes, increased insurance coverage, and a rising proportion of elderly in the population. "These factors no doubt have combined to increase the costs in the Federal Employees' Benefit Program. We understand that the FEHB as well as other plans have experienced sharp rises in utilization."

Another reason for increased utilization may be more extensive tests and services as a result of threats of liability lawsuits, he said.

Dr. Felch said the AMA has recently approved the creation of a high level commission to study the problem of rising health care costs. This Commission on the Cost of Medical Care will include top level representatives of health care providers and of the public, reflecting a broad spectrum of interest in health care. "It is our desire that through the joint efforts of all members of the Commission, the causes for health care cost increases will be better understood."

* * * * *

The Administration has had a change of mind and now backs legislation that would bar unions from requiring members to join federally-subsidized Health Maintenance Organizations (HMO's).

Referring to a provision in the HMO bill recently passed by the House, Theodore Cooper, M.D., Assistant HEW Secretary for Health, said "this amendment would assure that each individual employee would have the right to choose to participate before joining."

Dr. Cooper's statement before the Senate Health Subcommittee represented a switch in Administration policy. Only a month ago, the HEW Department issued regulations on HMO's that allowed unions at the collective bargaining table to choose an HMO or regular private health insurance on behalf of the entire union membership.

The original HMO measure approved by Congress specified that all employers with more than 25 workers had to offer the "dual option" of HMO or regular insurance to their employees in areas where HMO's were situated and sought this option. However, this clause caused confusion and was viewed by labor — backed by the the Labor Department — as interfering with Labor's present collective bargaining rights to pick a single health benefit package. In issuing final regulations on HMO's last month, HEW went along with Labor's viewpoint.

As the Senate Health Subcommittee headed by Sen. Edward Kennedy (D.-Mass.) opened hearings on the House-passed amendments to the HMO law, Dr. Cooper said "we endorse the clarification of existing law which provides that an employer offer an HMO option under 'dual choice' first to the employees' representative, if any, and, if accepted by the representative, then to the individual employees."

The House measure retained Labor's collective bargaining opportunity to select a regular private health insurance program as the sole health benefits program, but said that employees could not be forced to accept an HMO.

The problem with the Labor Relations Act and the "dual option" may eventually have to be settled by the courts. A key issue is whether union membership can be required in total to join a plan that is federally subsidized. A non-subsidized HMO or pre-paid group practice plan may, or course, be selected by Labor for all members without question.

* * * * *

Federal controls dictating where medical graduates practice, rationing of residencies, and federal licensure and re-licensure of physicians have been strongly opposed by the American Medical Association.

Further governmental regulations may "have adverse effects on the forces which are bringing about desired changes without regulatory inter-

vention," said Tom Nesbitt, M.D., speaker of the AMA's House of Delegates.

Dr. Nesbitt told the Senate Health Subcommittee headed by Sen. Edward Kennedy (D.-Mass.) that the AMA supports continued capitation and other aid for medical schools, but provisions requiring students to repay the government in money or in shortage area service in return for the capitation aid are "coercive and unprecedented."

"Such requirements would place an unconscionable burden on students," Dr. Nesbitt declared.

The Senate Subcommittee is finishing hearings on health manpower legislation and is expected to draft legislation shortly. The House last fall approved a health manpower bill extending federal aid for medical schools but imposing the compulsory payback on all students. A provision mandating allocation of residencies, however, was defeated on the House floor.

From the standpoint of the medical school finances, the battle over whether federal capitation support will continue has already been won, with the pro-support HEW Department finally getting the upper hand in an intra-administration dispute with the Office of Management and Budget which wanted to end federal subsidies for medical schools.

Dr. Nesbitt told Kennedy's Subcommittee that federal scholarships should continue, not only those tied to service in the Public Health Service and National Health Service Corps, but scholarships with no strings attached for students in severe financial need from the socio-economic disadvantaged. Funds for student loans also are needed, he said.

Proposals to regulate the total numbers of first year residency provisions, their geographic location, and their distribution by specialty were labeled "unnecessary and unwise" by the AMA official.

The number of residency positions is declining at the same time the number of medical school graduates is increasing, Dr. Nesbitt noted. "It is a particularly inappropriate time to establish arbitrary legislative ceilings on total residency positions."

The goal of such allocations is to increase the number of "primary care" physicians. However, Dr. Nesbitt pointed out that last year 58 percent

of graduate students entered "primary care" specialties, more than the 50 percent goal set by the AMA previously. What Congress is seeking is already being accomplished, without legislation, he said.

* * * * *

The House Ways and Means Committee has approved four technical amendments to the Medicare law including one which would forestall rollbacks in some physicians' Medicare reimbursement.

An unintended effect of the HEW Department's new Medicare reimbursement index tying physicians' Medicare fees to a cost-of-living-type formula was to cause some reimbursement levels to be less this year than last despite rises in the cost of living. The Ways and Means amendment would prevent any reimbursement to be less this fiscal year than allowed previously.

The AMA had urged this change. The other amendments dealt with reimbursement for teaching hospitals, the Federal Employees Health Benefits Program, and extension of an exemption for certain nurse staffing requirements in rural hospitals.

* * * * *

Two broad philosophical principals—the right of privacy and the public's right to know—are colliding in Federal health programs. The dilemma was pointed up recently when the Federal Medicaid program decided the Freedom of Information Act required it to release upon request the names of physicians who collected more than \$100,000 yearly from Medicaid payments.

The HEW Department said 207 physicians last year received more than \$100,000 from Medicaid. The names of 13 New Jersey physicians were released immediately and all other names will be made public, HEW officials said. The names were requested by the *New York Daily News* and other newspapers on the basis of the Freedom of Information Statute designed to open up the workings of the Federal Government to public scrutiny.

Medicaid officials made clear that the figures were gross receipts and that there was no suggestion of any abuse or impropriety. Dr. Keith Weikel, Federal Medicaid Director, told a small group of newsmen that he was concerned that disclosure of the physicians' names might dis-

courage some physicians from treating Medicaid patients, but he added that the Agency felt the information law required release.

* * * * *

The military medical school is still in jeopardy. The school, to be located on the Bethesda, MD, grounds of the Naval Medical Center, was opposed last year by a special White House task force that concluded taxpayers would save \$100 million without it. The House recently approved funds for the school, but the Senate asked the General Accounting Office to make a study of the cost effectiveness of the Uniformed Services University of the Health Sciences compared with the present military medical scholarship program. Sen. William Proxmire (D.-Wis.) told the Senate \$15 million has already been spent on the school and Congress should allow it to go ahead. The AMA has opposed the establishment of the school since its conception a number of years ago.

* * * * *

Society Endorses Disease Surveillance System

The Arkansas Medical Society has formally endorsed the Disease Surveillance System, Division of Communicable Disease, of the State Health Department. Dr. Andrew G. Dean of Little Rock is the Acting Director of the Division.

Since April 1975, the Arkansas Academy of Family Physicians and the Division of Communicable Diseases have been carrying out a trial of new concepts in Statewide disease surveillance. It is based on having each physician report a full day's experience in his practice, patient by patient, but only at widely spaced intervals.

* * * * *

94th CONGRESS 1st Session

H. R. 10641

IN THE HOUSE OF REPRESENTATIVES

November 7, 1975

Mr. Thornton (for himself and Mr. Hammerschmidt) introduced the following bill; which was referred jointly to the Committees on Ways and Means and Interstate and Foreign Commerce

A BILL

To amend titles XVIII and XIX of the Social Security Act to provide an optional, simplified method of reimbursement for physicians' services under the medicare and medicaid programs for each State on the basis of a fee schedule,

uniform throughout such State, and to authorize reimbursement to participating physicians in the full fee schedule amounts (with collection of the applicable deductibles and coinsurance from patients becoming the responsibility of the Federal program).

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 1842 of the Social Security Act is amended by adding at the end thereof the following new subsection:

“(1) (1) Notwithstanding any other provision of this section, the Governor of any State may request that payment under this part on a charge basis, for services rendered within that State, be applicable throughout such State as hereinafter made in accordance with a single fee schedule provided rather than in the manner specified in subsection (b) (3) (B); and, effective on and after the first July 1 which occurs more than three months after the approval of such request by the Secretary as hereinafter provided, payment for all such services rendered within that State, under this part and under the State's plan approved under title XIX, shall be made only in accordance with such schedule.

“(2) The fee schedule described in paragraph (1) which is applicable with respect to services rendered in any State shall be determined as follows:

“(A) The schedule to be in effect in such State for the twelve-month period beginning on the effective date of the schedule (as specified in paragraph (1)) shall be proposed by the Governor of the State after consulting with and receiving recommendations from State medical societies or equivalent organizations; and the schedule so proposed shall be approved by the Secretary if he finds that the costs incurred by the Federal Government under this title and title XIX on account of the services involved for the twelve-month period ending on the December 31 preceding such effective date would have been no higher than they were in fact had such schedule been in effect throughout that twelve-month period.

“(B) The schedule to be in effect in such State for any twelve-month period beginning on July 1 after the period to which subparagraph (A) applies shall be the schedule as originally proposed and approved under such

subparagraph with such revisions as shall be (i) proposed by the Governor of the State, after consulting with and receiving recommendations from the State medical societies or equivalent organizations, and (ii) approved by the Secretary upon a finding that the schedule as so revised would not increase the costs to the Federal Government (with respect to the services involved) of the program under this part or title XIX by more than the amount used in computing the change (if any) in the prevailing charge level under clause (ii) of the third sentence of subsection (b) (3) for the period involved.

“(3) All physicians in any State in which payments are determined in accordance with a fee schedule as provided in paragraphs (1) and (2) may elect, in such manner and form as the Secretary shall by regulations prescribe, whether to participate or not to participate, in the manner provided in paragraph (4) (A), in the program under this part (and the program under title XIX). Any such physician desiring to participate may do so upon giving thirty days’ written notice to the Secretary that he will accept payment of the fee schedule amount as payment in full for the services he provides to all individuals eligible for benefits under this part or under a plan approved under title XIX. Any participating physician desiring to rescind his participation may do so upon giving ninety days’ written notice to the Secretary and to all of his current patients, but may again participate in such programs only upon the expiration of six months after his most recent participation ceased (and upon giving thirty days’ written notice (during or after such six-month period) to the Secretary).

“(4) (A) Any physician electing to participate in the program under this part (and the program under title XIX) as provided in paragraph (3) shall receive payment for any services furnished by him in the State, under this part or under the State’s plan approved under title XIX, on the basis of regular billings (which shall be submitted on the same type of claims form in either event) in accordance with the fee schedule which is effective in the State for the period involved, and shall receive such payments in the full amounts specified in such schedule, without offset for deductible or coinsurance amounts. Any deductible or coinsurance amount otherwise payable

with respect to the services involved shall not be due the physician from the patient, but shall be collected from such patient by the Secretary and shall be treated for purposes of both programs as having been paid by the Secretary on behalf of such patient. At the option of the physician, such billings and the payments made pursuant thereto may be made on a consolidated basis under which the physician uses a single form to list all of the services involved under both programs over such period (not less than a week) as shall be specified by the Secretary, and receives a single check including payment for all of the services so listed.

“(B) Payments under this part to physicians who have not elected to participate in such programs as provided in paragraph (3), and to patients of such physicians, for services specified in the fee schedule which is effective in the State for the period involved, shall be made in the amounts specified in such schedule subject to any applicable deductibles and coinsurance, but shall otherwise be made in accordance with subsection (b) (3) and all of the other provisions of this title relating thereto as though this subsection had not been enacted.

“(5) Each fee schedule in effect under the preceding provisions of this subsection, and the names and addresses of all participating physicians within the meaning of paragraph (3), shall be made available to the public throughout the State involved, in such manner and at such times as the Secretary may consider appropriate, by the Secretary or by the appropriate State agency with the approval of the Secretary.

“(6) Any deductible or coinsurance amounts treated under paragraph (4) (A) as having been paid to a physician by the Secretary on behalf of a patient under this part or title XIX shall be collected from such patient in such manner and at such time or times as the Secretary shall by regulations prescribe; except that—

“(A) in the case of a patient who is entitled to monthly insurance benefits under title II, the aggregate amount treated as having been so paid during the twelve-month period ending on any June 30 under such title shall be collected by deducting one-twelfth of such amount from the monthly benefit payable to such patient under such title for each of the twelve months in the first calendar year be-

ginning after such June 30;

“(B) in the case of a patient who is not entitled to monthly insurance benefits under title II or eligible to receive such benefits, the aggregate amount treated as having been so paid during the twelve-month period ending on any June 30 shall be collected by adding such amount to the total premium otherwise due from such patient under section 1839 during the first calendar year beginning after such June 30, if not paid by, or on behalf of, such patient before then (and the amount so added to such premium shall be considered for all of the purposes of this title except section 1840 (d) as being a part of such premium); and

“(C) in any case where collection of any such amount cannot be accomplished under subparagraph (A) or (B) (including a case where the patient dies before collection under either such subparagraph is completed), the portion of such amount not collected shall be deemed for purposes of this Act to be an overpayment of benefits under title II and shall be treated as such (whether or not the patient is or was entitled to any such benefits) for purposes of adjustment or recovery under such title”.

Sec. 2. (a) Section 1842 (a) of the Social Security Act is amended—

(1) by inserting before the semicolon at the end of paragraph (1) (A) the following: “,except to the extent that such rates and amounts are determined under subsection (h)”; and

(2) by striking out “such payments” in paragraph (1) (B) and inserting in lieu thereof “payments under this part”.

(b) Section 1842 (b) (3) (B) of such Act is amended by striking out “(except as otherwise provided in section 1870 (f))” in the matter preceding clause (i) and inserting in lieu thereof “(except as otherwise provided in subsection (h) and section 1870 (f))”.

(c) Section 1842 (b) (3) of such Act is further amended by striking out “No charge” in the second (unnumbered) paragraph and inserting in lieu thereof the following:

“Subject to subsection (h), no charge”.

(d) Section 1842 (b) (5) of such Act is amended by inserting immediately after “paragraph (3)” the following “or pursuant to subsection (h)”.

Sec. 3. (a) Section 1902 (a) (32) of the Social Security Act is amended by striking out “or such physician” and inserting in lieu thereof “or (pursuant to the last sentence of section 1903 (i) or otherwise) such physician”.

(b) (1) Section 1903 (i) (1) of such Act is amended by inserting before the semicolon the following: “,except as provided in the last sentence of this subsection”.

(2) Section 1903 (i) of such Act is further amended by adding at the end thereof (after and below paragraph (4)) the following new sentence: “Notwithstanding any other provision of this title or of any plan approved under this title, in any case where payment on a charge basis under part B of title XVIII of this Act for services rendered in any State is made in accordance with a fee schedule determined as provided in section 1842 (h), (A) payment to the State under the preceding provisions of this section shall be made only if payment for the services involved under the State plan is made in accordance with such schedule to the extent applicable, and (B) the provisions of section 1842 (h) relating to reimbursement of and participation by physicians, submission of billings by physicians, and collection of deductibles and coinsurance from patients shall apply for purposes of this title and such State plan to the extent applicable; and the State plan shall be deemed to so provide”.



THINGS TO COME

GYNECOLOGIC ENDOCRINOLOGY A Postgraduate Education Course For The Practicing Physician James R. Givens, M.D.*

The Department of Obstetrics and Gynecology at The University of Tennessee Center For The Health Sciences, Memphis, Tennessee will sponsor a 3-day postgraduate course for clinicians on GYNECOLOGIC ENDOCRINOLOGY at the Hilton Inn—Memphis Airport, March 11, 12,

*Professor of Obstetrics and Gynecology; Director, Division of Reproductive Medicine, The University of Tennessee Center for Health Sciences, 800 Madison Avenue, Memphis, Tennessee 38163.

13, 1976. The diagnosis and management of the major gynecologic endocrine disorders will be discussed by 11 visiting faculty and 10 local faculty. Guest faculty include: Drs. Carl E. Cassidy, Charles Flowers, Joseph W. Goldzieher, Robert B. Greenblatt, Jerome M. Hershman, Ronald K. Kalkhoff, Janet W. McArthur, Robert L. Rosenfield, Pentti K. Siiteri, Leon Speroff and Michael E. Yannone. An interesting and informative program is also planned for the wives, including a pilgrimage to restored antebellum homes. For further information and registration contact: James R. Givens, M.D., 800 Madison Avenue, Memphis, Tennessee 38163.

* * *

Arkansas Medical Society 1976 Annual Meeting

The Society's 1976 Annual Meeting will be held April 25-28 at the Arlington Hotel in Hot Springs. The scientific program theme will be "Cardiovascular Disease", which will include topics of interest for general practitioners as well as specialists. The Society has applied for 12 hours of Category I Continuing Medical Education credit.

1976 Southeast Emergency Medicine Congress

The 1976 Southeast Emergency Medicine Congress will be held May 3-5, 1976, at the Fairmont Colony Square Hotel, Atlanta, Georgia. Sponsored by the Southeast Chapters of the American College of Emergency Physicians, School of Medicine Medical College of Georgia, and in conjunction with the Emergency Department Nurses Association. Fees: \$100 (ACEP), \$125 (Non-ACEP Physician), \$40 (EDNA), \$50 (Non-EDNA), \$40 (Registered EMT), \$50 (Non-Registered EMT), \$25 (Residents, Interns, Medical and Nursing students with letter from department chief), \$100 EMS Administrators with letter on EMS stationery), \$125 (Others). For further information contact: Registrar, 1976 Southeast Emergency Medicine Congress, 1919 Beachway Road, Suite 5C, Jacksonville, Florida 32207. Phone AC 904 399-0510.

Postgraduate Course "The Scope of Endoscopy"

The American Society for Gastrointestinal Endoscopy will sponsor a postgraduate course on "The Scope of Endoscopy" on May 27-28, 1976. The course will be held at the Fontainebleau Hotel, Miami Beach, Florida. Critical questions of the role of endoscopy in diagnosis and manage-

ment will be addressed. Multidisciplinary panels will consist of gastroenterologists, surgeons, pathologists and radiologists. Brief formal presentations will be followed by in-depth questions and case presentations.

Topics will include: Peptic Disease; Gastrointestinal Bleeding; Jaundice; Diagnostic Techniques in Colonic Disease; Colonic Tumors; Inflammatory Bowel Disease; Complications and Consultations; Future of Instrumentation and Application. Course directors are Sidney J. Winawer, M.D., and Joseph B. Kirsner, M.D. For further information contact ASGE Postgraduate Course, Charles B. Slack, Inc., 6900 Grove Road, Thorofare, New Jersey 08086.

1976 Tri-State Scientific Sessions for Physicians

The Arkansas Heart Association, the American Heart Association-Louisiana, Inc., and the Mississippi Heart Association are sponsoring the 1976 Tri-State Scientific Sessions for Physicians. The meetings will be held May 20-22, 1976, at the Monteleone Hotel, New Orleans. The meeting's title is "Cardiology '76".

The program is approved for 15½ elective hours by the American Academy of Family Physicians. Registration fee is \$130 for Heart Association members and \$150 for non-members. The program will consist of lectures, discussions and a practical workshop. Subjects for the workshop include: Auscultation, Interpretation of ECG's and Echocardiography.

For information and registration please contact: Arkansas Heart Association, 909 West Second, Post Office Box 1610, Little Rock, Arkansas 72203.

Clinical and Experimental Hypnosis

The 28th Annual Workshop and Scientific Program of the Society for Clinical and Experimental Hypnosis will be held June 26-30, 1976. Sponsored by the University of Pennsylvania (Philadelphia). For information regarding registration, please write to Martin T. Orne, M.D., Ph.D., The Institute of Pennsylvania Hospital, 111 North 49th Street, Philadelphia, Pennsylvania 19139.

Hypnosis and Psychosomatic Medicine

The 7th International Congress of Hypnosis and Psychosomatic Medicine will be held July 1-3, 1976. Sponsored by the University of Pennsylvania (Philadelphia). For information regarding registration and accommodations, please

DYAZIDE[®]

MAKES SENSE

Each capsule contains 50 mg. of Dyrenium[®] (triamterene, SK&F) and 25 mg. of hydrochlorothiazide.

Trademark

**TRIAMTERENE CONSERVES POTASSIUM
WHILE HYDROCHLOROTHIAZIDE
LOWERS BLOOD PRESSURE**

**FOR LONG-TERM CONTROL
OF HYPERTENSION***

Serum K⁺ and BUN should be checked periodically. (See Warnings Section.)



Before prescribing, see complete prescribing information in SK&F literature or PDR. The following is a brief summary.

Warning

This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

***Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has

been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and

BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Anti-hypertensive effects may be enhanced in post-sympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 capsules; in Single Unit Packages of 100 (intended for institutional use only).

SK&F Co., Carolina, P.R. 00630
Subsidiary of SmithKline Corporation







Effectiveness across the spectrum of most common forms of insomnia

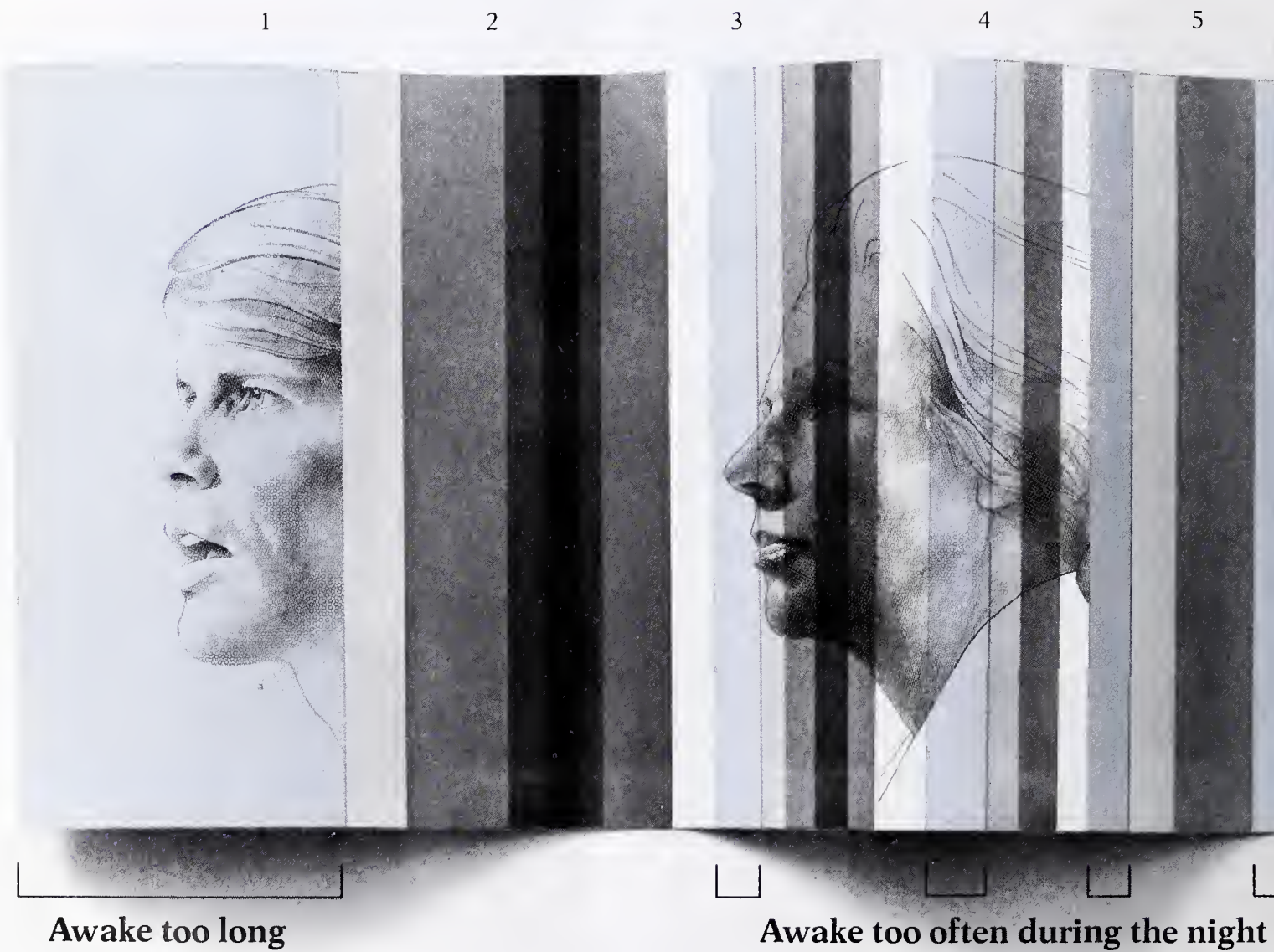
Awake too long, awake too often, awake too early...

These are the most common forms of insomnia, and may occur singly or in any combination. The night of troubled sleep depicted here comprises all three types. As the night progresses from left to right, each sleep stage is identifiable by its own shade of gray. Blue represents "Awake."

As you can see, this hypothetical "patient" takes well over an hour to fall asleep, awakens several times during the middle of the night and awakens too early in the morning.

Sleep Stages

	Awake		Stage 2
	REM		Stage 3
	Stage 1		Stage 4



The insomnias most often occurring in young and older adults

For patients with trouble falling asleep (common in young adult insomnia patients), Dalmane (flurazepam HCl) 30 mg provides sleep within 17 minutes, on average. For those with trouble staying asleep or sleeping long enough (common in those over 50), Dalmane offers increased total sleep time with fewer nocturnal awakenings. These clinical results were demonstrated in studies conducted in four geographically separated sleep research laboratories.¹⁻⁴

The relative safety of Dalmane (flurazepam HCl) is well documented

Dalmane (flurazepam HCl) is relatively safe and well tolerated; morning "hang-over" has been infrequent. The usual adult dosage is 30 mg; in elderly or debilitated patients, limit initial dosage to 15 mg to preclude over-sedation, dizziness or ataxia. Caution patients about possible combined effects with alcohol and other CNS depressants.

Broad-spectrum medication for the most common forms of insomnia

Dalmane[®] (flurazepam HCl)

One 30-mg capsule *h.s.*— usual adult dosage (15 mg may suffice in some patients).

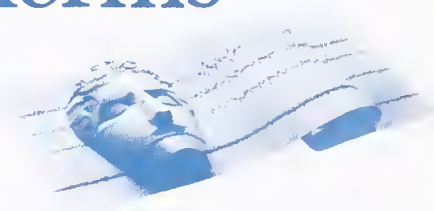
One 15-mg capsule *h.s.*— initial dosage for elderly or debilitated patients.

- ☐ induces sleep rapidly
- ☐ reduces nighttime awakenings
- ☐ lengthens total sleep time



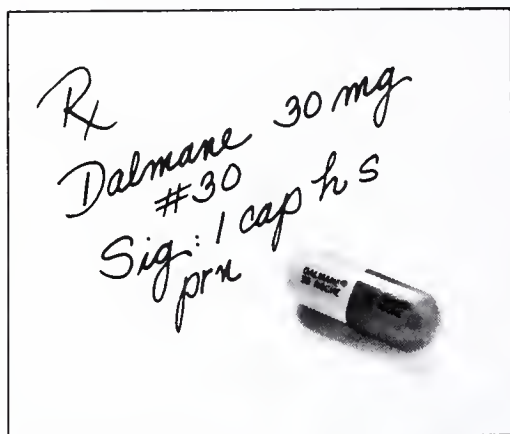
Please see following page for a summary of complete product information.

Awake too early



Broad-spectrum medication for the most common forms of insomnia

Dalmane[®] (flurazepam HCl)



Objectively proved in the sleep research laboratory, Dalmane

- induces sleep within 17 minutes, on average
- reduces nighttime awakenings
- provides 7 to 8 hours sleep, on average, without repeating dosage

Before prescribing Dalmane (flurazepam HCl), please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not

recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement,

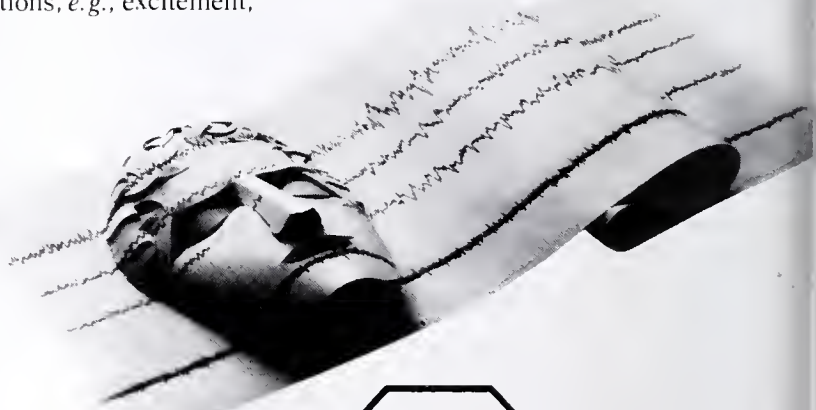
stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

REFERENCES:

1. Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-7, 1971
2. Frost JD Jr: A system for automatically analyzing sleep. Scientific exhibit at the 24th Clinical Convention of the American Medical Association, Boston, Nov 29-Dec 2, 1970; and at the 42nd annual scientific meeting of the Aerospace Medical Association, Houston, Apr 26-29, 1971
3. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ
4. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ



ROCHE

ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

write Martin T. Orne, M.D., Ph.D., The Institute of Pennsylvania Hospital, 111 North 49th Street, Philadelphia, Pennsylvania 19139.

Clinical Immunology and Allergy Meeting

The American Association for Clinical Immunology and Allergy will have its annual

scientific and business meeting November 28-December 2, 1976, at the Braniff Place Hotel, Tucson, Arizona.

Please Note: This is a change from previously announced dates, and other 1976 dates for this organization should be disregarded.



PERSONAL AND NEWS ITEMS

Dr. Kennedy is Rehabilitation Supervisor

Dr. Jack W. Kennedy of Hot Springs has been named supervisor of medical services at the Hot Springs Rehabilitation Center, replacing Dr. Gaston A. Hebert of Hot Springs who retired recently. Dr. Kennedy is a past president of the Arkansas Medical Society.

Dr. Duncan Named Fellow

Dr. Philip E. Duncan of Fayetteville has been named to the list of Fellows of the American College of Physicians. He is one of 325 new Fellows named in the international society representing specialists in internal medicine and related fields.

Dr. Rushton is Rotary Speaker

Dr. Joe Rushton of Magnolia recently spoke to the Magnolia Rotary Club on the increasingly deteriorating malpractice insurance situation in the United States and Arkansas.

Dr. Reid Named to Board

Dr. Lloyene Bruce Reid of Pine Bluff has been named to the Arkansas Medical Service Program Board of the March of Dimes. The board determines what research projects the organization will support and provide funds for.

Dr. Hammons on UAMS Staff

Dr. Ed Hammons of Forrest City has been appointed to the University of Arkansas College of Medicine faculty as a consulting instructor, Family Practice Department. Dr. Hammons will continue to live and practice in Forrest City.

Dr. Guenther Elected Chief-of-Staff

Dr. John F. Guenther of Mountain Home has been elected chief-of-staff of the Baxter General Hospital in Mountain Home. He replaces Dr.

Max Cheney. Dr. Carolyn Wilson, also of Mountain Home, was elected vice chief-of-staff.

Dr. Townsend Dedicates New Hospital in Jonesboro

Dr. T. E. Townsend of Pine Bluff, president of the Arkansas Medical Society, presided at the dedication of the \$7 million Craighead Memorial Hospital in Jonesboro on January 4th.

Dr. Lowe Sponsored for Advanced Training

Dr. Betty Lowe of Little Rock, Professor of Pediatrics at the University of Arkansas College of Medicine, will train as the first pediatric rheumatologist in Arkansas. Her training will be sponsored by the Arthritis Foundation and the Arkansas Regional Medical Program. Dr. Lowe practiced pediatrics in Texarkana for twelve years before joining the University faculty in 1975.

State Medical Film Wins Award

A film entitled "Wound Healing by Primary Intention", produced by the University of Arkansas College of Medicine, has received a "Golden Eagle" award from the Council on International Nontheatrical Events (CINE). Dr. Harry Hayes, Jr., of Little Rock, clinical professor of plastic surgery at the College, wrote the script.

Speakers Bureau Provides Instructors

For the third consecutive year, the Arkansas Medical Society's Speakers Bureau has provided a number of instructors for Henderson State University in Arkadelphia. This year the Bureau has scheduled eight instructors for the University's Graduate Health Seminar Class. Graduate students in related health fields attend the class as part of their required curriculum.

This year's instructors and their topics are as

follows: Dr. A. T. Gillespie, Little Rock, "Birth Control Techniques and Sex Education and the Family: Part I and Part II"; Dr. W. Payton Kolb, Little Rock, "New Developments in Mental Health"; Dr. Henry Hearnberger, Jr., Little Rock, "Use and Abuse of Drugs"; Dr. James T. Blackmon, Arkadelphia, "Emergency Aid—DOT/EMS Ambulance"; Dr. J. Mayne Parker, Little Rock, "Common Causes of Visual Loss"; Dr. Kelsy J. Caplinger, Little Rock, "Allergic Diseases"; and Dr. Raymond V. Biondo, North Little Rock, "Hypnosis".

Physician Receives Award

Dr. C. R. Ellis of Malvern has received the Boy Scout District Service Award for his services to scouting over the past seventeen years. Dr. Ellis has also received the Silver Beaver Award, a national award of the Boy Scouts. As well as having been a local scout master, Dr. Ellis has served on local, district, and national scouting committees.

Doctor Locates

Dr. David Fried, a native of Polk County, has returned to Mena for the practice of general medicine and surgery. Before returning to Mena, Dr. Fried was a missionary in Nigeria. He also spent a short time in Tanzania and the Gaza Baptist Hospital in the Mid-East.

Hospitals Appoint 1976 Officials

The Crittenden Memorial Hospital in West Memphis has elected Dr. C. W. Peeples, Jr. as chief of the medical staff. Dr. Peeples succeeds Dr. Robert C. Ford. Also elected was Dr. H. G. Lanford as vice chairman.

Dr. Douglas Christian has been appointed chief of staff at St. Vincent Infirmary in Little Rock. He succeeds Dr. Bill D. Stewart. Dr. Harold H. Hedges was elected as vice chief of staff and Dr. K. M. Kreth was elected as secretary-treasurer.

The Washington Regional Medical Center in Fayetteville has named Dr. Monroe Painter as chief of staff. Dr. Painter succeeds Dr. Harmon Lushbaugh.

Dr. R. T. Brooks of Pine Bluff has been elected as chief of staff of the Jefferson County Hospital. Also elected were Dr. John Crenshaw, vice chief of staff and Dr. L. M. Hughes, secretary-treasurer. Drs. L. G. Langston, J. S. Robinette, and J. F. Clark were elected to the executive committee.

Doctors Lecture on Emergency Care

Drs. Robert J. Smith, W. O. Nixon, George Roberson, Francis Henderson, T. E. Townsend,

R. Teryl Brooks, and P. B. Simpson all of Pine Bluff were instructors for describing advanced treatment of emergency-room patients to eleven nurses from all over Arkansas. The series of lectures were conducted to provide continuing education for the State's nurses.

Dr. Busby Named Assistant Professor

Dr. James D. Busby of Fort Smith has been named an assistant professor of family and community medicine at the University of Arkansas College of Medicine. Dr. Busby will be associated with the Area Health Education Center at Fort Smith. He will be assisting the director of the family practice residency program at the Education Center.

Physicians Named to Admissions Board

Society members named to the new Admissions Board of the University of Arkansas College of Medicine are Dr. Don R. Vollman, Dr. S. William Ross, Dr. Harold H. Hedges, Dr. C. Rodney Baker, Dr. Herman F. Flanigin, Dr. Joseph Norton all of Little Rock, Dr. John Ashley of Newport, Dr. Joe B. Hall of Fayetteville, Dr. Robert J. Smith of Pine Bluff, and Dr. Charles E. Tommey of El Dorado.

Dr. Roy Conducts Course

Dr. F. Hampton Roy was one of three doctors who recently conducted a two day course in Boston, Massachusetts, on Intraocular Lens Implant Surgery.

Dr. Scurlock Elected President

Dr. William R. Scurlock of El Dorado was elected President of the Arkansas Division of the American Cancer Society at the recent Annual Meeting of the Division. Dr. Scurlock has been a member of the Board of Directors of the Division since 1970 when he was elected as the Medical District Director. In this capacity he represented four counties in District 13: Calhoun, Columbia, Ouachita, and Union Counties.

As a member of the Board of Directors, Dr. Scurlock assists in formulating and directing the important life-saving programs of the American Cancer Society in Arkansas.



ANSWER—Electrocardiogram of the Month

Inverted T waves and prominent U waves give impression of prolonged QT interval. Changes are suggestive of hypokalemia. Serum potassium was 2.7 meq/L.



PROCEEDINGS OF SOCIETIES

Pulaski County

Dr. Amail Chudy of North Little Rock has been elected president of the Pulaski County Medical Society for 1976. Other new officers are Dr. Frank Westerfield of Little Rock, president-elect; Dr. William N. Jones of Little Rock, vice president; Dr. James Weber of Jacksonville, secretary; Dr. Paul Cornell of Little Rock, treasurer; and Dr. Robert Dickins of Little Rock, treasurer-elect.

Greene-Clay County

Dr. A. J. Baker of Paragould has been elected president of the Greene-Clay County Medical Society for 1976. Other officers include Dr. George H. Collier, vice president, and Dr. Clark M. Baker, secretary, both of Paragould. Elected delegate along with Dr. A. J. Baker was Dr. J. Larry Lawson of Paragould.

* * *

COUNCIL MINUTES ARKANSAS MEDICAL SOCIETY

The Council of the Arkansas Medical Society met at 10:00 A.M. on Sunday, December 14, 1975, in the Camelot Inn, Little Rock. Present were: Long, Townsend, Koenig, Shuffield, Crow, Kirkley, J. Bell, Gray, P. Bell, Inman, Burge, Jameson, Moore, Harris, Andrews, McCrary, Clark, Orr, Kolb, Kirby, Henry, Kutait, Chudy, Wilkins, Saltzman, Ellis, Hyatt, Wood, Verser, Fowler, Watson, Applegate, Purcell Smith, James Weber, George Mitchell, James Dennis, Thomas Bruce, Rex Ramsay, Edgar Easley, Guy Farri's, Lee Parker, Max Baker, Raymond Biondo, W. E. Jennings, James Weedman, James Basinger, John Guentlner, Pat Black, Andrew Dean, medical student Bill Dudding, Mr. Paul Harris, Mr. Eugene Warren, Mr. Schaefer, and Miss Richmond.

The Council transacted business as follows:

1. Ben Saltzman reported on the Second National Conference on Joint Practice which he attended in Chicago.
2. Kemal Kutait expressed the concern of members of the Sebastian County Medical Society regarding nurse practitioners who appear to

be setting up independent practices with "physician sponsors". Legal counsel advised that there is no provision in the State statutes for delegation by physicians of authority to practice medicine. The Council recommended that Dr. Kutait confer with the Council's Physician-Nurse Joint Practice Committee headed by Dr. Watson, since that committee has been meeting regularly with the nurses, and report back to the Council as deemed necessary.

3. A. S. Koenig reported on the Governor's Conference on Health Manpower Planning which he and other physicians attended in Hot Springs the first week of December. He stressed the importance of physicians keeping themselves informed on health planning activities and letting planning agencies know of their interest.
4. Kemal Kutait and Max Baker of Fort Smith discussed the Community Mental Health Center operation in western Arkansas. Upon the motion of Kutait, the Council voted to go on record as (1) opposing the State Hospital functioning exclusively through Government agencies and (2) requiring mental health centers to operate within the guidelines of high quality medical care.
5. The Council received for information reports on developments under Public Law 93-641, the Health Planning and Resources Development Act of 1974. Several physicians who have been involved in these activities stressed the need for physicians to attend meetings as the health service agencies are being organized.
6. Raymond Biondo, speaking for the Committee on Medical Education, advised the Council that the committee recommends making continued medical education a requirement for membership in the Arkansas Medical Society. This was received by the Council as information.
7. Andrew G. Dean, Acting Director of the Division of Communicable Disease of the Arkansas State Department of Health, discussed the Arkansas Disease Surveillance System. Upon the motion of Kirkley, the Council voted to endorse the program and urge physician participation.
8. C. R. Ellis discussed the necessity for taking assignment to receive payment under some Government medical programs. Upon the motion of Kirkley, the Council voted to

request a change in regulations for Government programs to allow physicians the choice of collecting their fees from either the patient or the Government agency.

9. Upon the motion of Kutait, the Council voted to appoint W. P. Phillips of Fort Smith as an additional member of the Board of Directors of Ark-Pac.
10. The Council received for information a report from Joe Verser on the activities of the State Medical Board.
11. The Council heard a complaint from Banks Blackwell concerning the practice of insurance companies using standard consent forms to go to hospitals to get complete medical history records of patients. Mr. Warren and Dr. Shuffield agreed to discuss this matter with the Insurance Commissioner.
12. Upon the motion of Shuffield, the Council tabled recommendations from the American Medical Association for establishment of uniform membership classifications.
13. Chairman Long advised the Council that he had appointed Payton Kolb, James Weber and Thomas Jansen as a committee to meet with the medical students on their request for Society support of their proposal that nationally-recognized tests such as FLEX be accepted by the Healing Arts Board in lieu of the healing arts exam. Dr. Kolb gave a brief report on the committee's meeting with the students. During the discussion, Dr. Verser suggested that there may be an alternative to legislation in solving the problem and, upon the motion of Koenig, the Council requested that the committee continue to work with the students to see if the matter can be solved as expeditiously as possible with the cooperation of the State Medical Board.

The Council, in executive session, took the following action:

1. Heard Mr. Schaefer discuss the necessity for bringing the Society's Employee Retirement Plan into compliance with the Employee Retirement Income Security Act of 1974 (ERISA). Upon the motion of Kutait, the Council authorized an expenditure of up to \$750 for consultant services in bringing the pension plan into compliance with ERISA.

APPROVED: C. C. Long, M.D.

Chairman of the Council

MINUTES

HOUSE OF DELEGATES ARKANSAS MEDICAL SOCIETY

The House of Delegates of the Arkansas Medical Society convened at 2:00 P.M. on Sunday, December 14, 1975, in the Camelot Inn, Little Rock. Speaker Amail Chudy called the meeting to order and the invocation was by C. Lewis Hyatt.

The following delegates, councilors, officers, and members seated as delegates were present:

Delegates: Ashley, Donald Toon; Baxter, Pat Black; Benton, James R. Knapp; Boone, Mahlon Maris; Clark, R. Jerry Mann; Cleburne, William M. Wells; Columbia, Paul Sizemore; Craighead-Poinsett, James M. Robinette, James W. Sanders, Joe Verser, James Basinger; Crawford, L. R. Darden; Crittenden, Milton Lubin; Dallas, Jack Dobson; Drew, C. Lewis Hyatt; Garland, Robert Hill; Hot Spring, J. A. Lindsey; Howard-Pike, Samuel W. Peebles; Jackson, John D. Ashley; Jefferson, Banks Blackwell, R. Teryl Brooks; Johnson, Boyce West; Lawrence, Ralph Joseph; Miller, Donald Duncan; Mississippi, M. J. Osborne; Monroe, N. C. David; Pope, James Kolb; Pulaski, Edgar Easley, Raymond Biondo, James L. Smith, Curry Bradburn, James Weber, William N. Jones, Paul Cornell, Frank Westerfield, Ashley Ross, Winston Shorey, Philip J. Deer, William Reese, Fred Kittler, Mayne Parker, George Mitchell, Purcell Smith, Robert Watson, Douglas Young; Saline, Helen Rountree; Sebastian, Carl Williams, Robert Hughes, Ken Lilly, W. P. Phillips, Eldon Coffman, Max Baker; Sevier, George Dickinson; St. Francis, E. Morgan Collins; Union, George W. Warren, James Weedman; Van Buren, John A. Hall; Washington, E. Mitchell Singleton, Walter Ely Brooks; Yell, James Maupin; Councilors, John Kirkley, Paul Gray, John Bell, L. J. P. Bell, John P. Burge, J. B. Jameson, John H. Moore, A. E. Andrews, C. Lynn Harris, Robert McCrary, Curtis B. Clark, W. Payton Kolb, Henry V. Kirby, Morriss Henry, C. C. Long, Kemal Kutait; President, T. E. Townsend; President-Elect, A. S. Koenig; First Vice President, Asa Crow; Speaker, Amail Chudy; Vice Speaker, Charles Wilkins; Secretary, Elvin Shuffield; Past Presidents, Joe Verser, C. R. Ellis, C. Lewis Hyatt, Ross Fowler, Stanley Applegate, Robert Watson, John P. Wood, Ben N. Saltzman.

Vice Speaker Wilkins introduced representatives of the junior and senior classes at the

University of Arkansas College of Medicine who had been invited to attend the House session.

The House transacted business as follows:

1. Speaker Chudy called on Elvin Shuffield, chairman of the Legislative Committee, for recommendations from his committee. Dr. Shuffield reported as follows:
 - (A) House Joint Resolution #16 calling for amendment to the State Constitution allowing remedial malpractice legislation to be enacted. The proposed amendment is one to be recommended to the Legislature by the State Agencies Committee. If the Legislature does approve the proposed amendment, then there must be a concerted effort to get public support of the amendment.
 - (B) Legislation proposed by the optometrists which would allow use of eye medication by optometrists. This is the subject of a resolution before the House from the Ophthalmology Section and the Legislative Committee recommended support of the resolution. The House so voted.
 - (C) The chiropractors will propose legislation allowing use of medications in the practice of acupuncture and the Legislative Committee recommended that the Society oppose the proposed legislation. The House so voted.
 - (D) Dr. Shuffield discussed changes being proposed in the Emergency Medical Technician legislation which would take responsibility for the program from the Health Department to put it under the Department of Public Safety. The Legislative Committee recommended that we try to keep ACT 435 of 1975 intact as it is and the House so voted.
- Dr. Chudy expressed the appreciation of the membership to Dr. Shuffield for his dedicated service in the field of medical legislation.
2. The House received a resolution from the Washington County Medical Society regarding payments under Medicare. Mitchell Singleton of Washington County moved that the resolution be tabled and it was so voted by the House.
- 3 Upon the motion of Shuffield, the House voted to express appreciation to Congressman Hammerschmidt for his action in introducing H.R. 10641 which would amend Title XVIII

and XIX of the Social Security Act to require elimination of the multi-area fee range determinations.

4. Charles Wilkins presented the resolution from Pope County Medical Society concerning the malpractice crisis. Upon the motion of Hyatt and Shuffield, the House voted to adopt the resolution with the word "received" substituted for "adopted" in the third WHEREAS, and the last RESOLVED deleted. (See resolution as adopted below.)
5. Raymond Biondo, speaking for the Committee on Medical Education, advised that the Committee recommends continued medical education as a requirement for maintaining membership in the Society. There was some discussion on the status of the action of the various committees and boards on this subject. It was the consensus of the House that the recommendation should be referred to the Legislative Committee and to the Constitutional Revisions Committee for consideration.

Amail Chudy, M.D.

Speaker

RESOLUTION:

Introduced by Pope County Medical Society
AS AMENDED BY HOUSE OF DELEGATES

WHEREAS, correction of the deteriorating malpractice situation in Arkansas will necessitate amendment to the Constitution of the State, and

WHEREAS, the Legislature of the State of Arkansas, in its last session, received a House Joint Resolution #16 to consider favorably placing such an amendment before the people, and

WHEREAS, the responsible Joint Committee of the Legislature, the State Agencies Committee, has recognized the grave situation and has recommended to the Legislature that such an amendment be placed before the people, and

WHEREAS, failure to take corrective action in the current malpractice problem has been clearly shown to lead to a catastrophic situation in other states, and

WHEREAS, increasing malpractice rates are greatly increasing the cost of medical care, encouraging doctors to retire from practice prematurely, and discouraging doctors from locating in Arkansas, and

WHEREAS, it is of paramount importance that this be brought to the attention of the Legislature of the State of Arkansas,

THEREFORE, BE IT RESOLVED that the House of Delegates of the Arkansas Medical Society authorizes the Council of the Arkansas Medical Society to call a two-day meeting for all doctors in Little Rock, Arkansas, during the 1976 session of the Legislature if the Council feels such a meeting is indicated so that physicians can emphasize the gravity of the situation to the legislators.

* * * *

RESOLUTION FROM OPHTHALMOLOGY SECTION

SUBJECT: Legislation to Allow the use of Drugs by Optometry

WHEREAS, there are legislative proposals to extend the definition of the practice of optometry to include the use of drugs in the eye for examination and diagnosis,

THEREFORE, BE IT RESOLVED, that the Arkansas Medical Society affirm that any legislation to authorize optometrists to engage in the use of drugs or medicines in any form, or to engage in the diagnosis or treatment of disease or injury, is not in the public interest; that the Medical Society is opposed to such legislation and will seek to defeat any legislation to extend the scope of optometry into these areas of the practice of medicine.



NEW MEMBERS

Dr. P. B. Simpson, Jr.

The Jefferson County Medical Society recently added the name of Dr. P. B. Simpson, Jr. to its membership roll. Dr. Simpson is a native of Mississippi. He received his B.S. degree from the Mississippi State University and his M.D. from the University of Mississippi Medical Center in 1968. He also interned at the University of Mississippi Medical Center.

Dr. Simpson has a solo practice in neurosurgery at 1724 Doctors Drive in Pine Bluff.

Pulaski County

The Pulaski County Medical Society has accepted as a resident member Dr. Fay W. Boozman, who is studying ophthalmology at the University of Arkansas College of Medicine. Also accepted as a member was Mr. M. Carl Covey, Jr., a freshman medical student at the University of Arkansas College of Medicine.



OBITUARY

Dr. Samuel V. Richmond

Dr. Samuel V. Richmond of Little Rock died December 23, 1975. He was born on May 26, 1911.

Dr. Richmond was graduated from Vanderbilt Medical School in Tennessee in 1937. He was an intern and a resident at Jersey City Medical Center. In 1946, he went to Little Rock and joined the staff of Trinity Hospital as a surgeon.

Dr. Richmond was a member of the Pulaski County Medical Society, the Arkansas Medical Society, the AMA, the American College of Surgeons, the Arkansas Fly Fishermen's Association, the Methodist Church, and the Country Club of Little Rock.

Survivors include his widow, Mrs. Elizabeth Fox Richmond; a son, Samuel V. Richmond, Jr., of Little Rock; and his mother, Mrs. Rosa Vaught Richmond of Russellville.

Dr. Fred B. Stone, Sr.

Dr. Fred B. Stone of Stuttgart died January 10, 1976 at the age of 54. Dr. Stone was born on February 2, 1921.

Dr. Stone was graduated from the University of Arkansas Medical School in 1951. He was a family practitioner in Stuttgart for 25 years.

Dr. Stone was a member of the Arkansas County Medical Society, the Arkansas Medical Society, the AMA, the American Academy of General Practice, the Arkansas Quarter Horse Association, and the First United Methodist Church. He was also a Navy veteran.

Survivors include his widow, Mrs. Mary Williams Stone; two sons, and three daughters.

March, 1976

THE JOURNAL OF THE

Arkansas MEDICAL SOCIETY

Vol. 72 No. 10

FORT SMITH, ARKANSAS

100th ANNUAL SESSION
ARKANSAS MEDICAL SOCIETY
ARLINGTON HOTEL, HOT SPRINGS, APRIL 25-28, 1976

BECOTIN®
Vitamin B Complex

BECOTIN® with VITAMIN C
Vitamin B Complex with Vitamin C

BECOTIN®-T
Vitamin B Complex with Vitamin C, Therapeutic

MI-CEBRIN®
Vitamins-Minerals

MI-CEBRIN T®
Vitamin-Minerals Therapeutic

AND A WIDE VARIETY OF OTHER PHARMACEUTICALS



DISTA PRODUCTS COMPANY
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

LIBRARY
U.C. SAN FRANCISCO
APR 6 1976

Both often



- Predominant psychoneurotic anxiety

- Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent

in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium[®]
(diazepam) 

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over-sedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

THE
JOURNAL OF THE

Arkansas

MEDICAL SOCIETY

Owned by
THE ARKANSAS MEDICAL SOCIETY
And Published Under Direction of the Council

ALFRED KAHN, JR., M.D., Editor
1300 West Sixth Street Little Rock, Arkansas
MR. PAUL C. SCHAEFER, Business Manager
214 North 12th Street Fort Smith, Arkansas
LITTLE ROCK BUSINESS OFFICE
114 E. Second St. Little Rock, Arkansas

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY

T. E. TOWNSEND, President	Pine Bluff
A. S. KOENIG, JR., President-Elect	Fort Smith
ASA A. CROW, First Vice President	Paragould
MAHLON O. MARIS, Second Vice President	Harrison
DONALD L. DUNCAN, Third Vice President	Texarkana
ELVIN SHUFFIELD, Secretary	Little Rock
KENNETH R. DUZAN, Treasurer	El Dorado
AMAIL CHUDY, Speaker,	
House of Delegates	North Little Rock
CHARLES F. WILKINS, JR., Vice Speaker,	
House of Delegates	Russellville
ALFRED KAHN, JR., Journal Editor	Little Rock
C. C. LONG, Delegate to AMA	Fort Smith
PURCELL SMITH, Delegate to AMA	Little Rock
JOE VERSER, Alternate Delegate to AMA	Harrisburg
T. E. TOWNSEND, Alternate Delegate to AMA	Pine Bluff
MR. PAUL C. SCHAEFER, Executive Vice President,	
P. O. Box 1208	Fort Smith

COUNCILORS

First District	JOHN B. KIRKLEY	Jonesboro
	*ELDON FAIRLEY	Osceola
Second District	JOHN E. BELL	Searcy
	*PAUL GRAY	Batesville
Third District	*L. J. P. BELL	Helena
	FRED C. INMAN, JR.	Carlisle
Fourth District	JOHN P. BURGE	Lake Village
	*RAYMOND IRWIN	Pine Bluff
Fifth District	*J. B. JAMESON, JR.	Camden
	JOHN H. MOORE	El Dorado
Sixth District	*C. LYNN HARRIS	Hope
	A. E. ANDREWS	Texarkana
Seventh District	*ROBERT F. McCRARY	Hot Springs
	CURTIS CLARK	Sheridan
Eighth District	WILLIAM S. ORR, JR.	Little Rock
	*W. PAYTON KOLB	Little Rock
Ninth District	*HENRY V. KIRBY	Harrison
	MORRIS M. HENRY	Fayetteville
Tenth District	KEMAL KUTAIT	Fort Smith
	*C. C. LONG	Fort Smith
*Senior Councilor		

The Advertising policy of this JOURNAL is governed by the PRINCIPLES OF ADVERTISING of the State Medical Journal Advertising Bureau, Inc., by the Advertising Committee of the Bureau and by the Council of the Arkansas Medical Society.

EXCLUSIVE PUBLICATION—Articles are accepted for publication on the condition that they are contributed solely to this JOURNAL.

COPYRIGHT 1976—By the JOURNAL of the Arkansas Medical Society.

NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

SCIENTIFIC ARTICLES

The General Ophthalmological Examination for the Non-Ophthalmologist	387
<i>Paul David Reese, M.D.</i>	
Round Window Ultrasonic Irradiation in Treatment of Meniere's Disease	391
<i>H. A. Ted Bailey, Jr., M.D. and James J. Pappas, M.D.</i>	

FEATURES

Office Orthopaedics: "Nerve Block Anesthesia for Minor Hand Surgery"	397
<i>R. Barry Sorrells, M.D.</i>	
EKG of the Month	400
<i>Malcolm B. Pearce, M.D.</i>	
Toxicology Update: "Plants Pose Potential Problems"	401
<i>D. Karrol Fowlkes</i>	
Arkansas Public Health At A Glance, "Arkansas Mobile Home Standards Program"	403
<i>James Shelton, Director, Div. of Bldg. Safety</i>	
Editorial: "Thrombophlebitis"	404
<i>Alfred Kahn, Jr., M.D.</i>	
Medicine in the News	405
Council Minutes of the Arkansas Medical Society	408
Proceedings of Societies	409
Things to Come	410
Obituary	412
Personal and News Items	412
Resolutions	413
New Members	415
Letters to the Editor	416
Convention Program	417

Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72901. Published monthly under direction of the Council, Arkansas Medical Society, Volume 72, No. 10. Subscription \$2.00 a year. Single copies 50 cents. Entered as second class matter, May 1, 1955, in the post office at Little Rock, Arkansas, under the Act of Congress of March, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 1, 1918. Second-class postage paid at Little Rock, Arkansas.

The General Ophthalmological Examination for the Non-Ophthalmologist

Paul David Reese, M.D.*

The ophthalmological examination is often abbreviated or deleted from the routine physical examination by the general physician. The overburdened, busy general practitioner may erroneously believe himself deficient in both the necessary time and expertise and consequently miss opportunities for prevention, management, and referral of ophthalmic problems.

This article will systematize and simplify the ophthalmological examination such that any general physician should be able to conduct a comprehensive examination with confidence and competency. The emphasis will be upon the "how" and "why" of the examination itself rather than upon specific pathological diagnosis and therapy.

Sequence of the Ophthalmological Examination

A rational and consistent sequence of examination assists the physician in establishing sound, thorough, and efficient clinical patterns. The sequence suggested here is intended for the adult screening examination. Modification will be necessary for children or for patients presenting with specific eye complaints.

Examination Sequence

- 1) Visual Acuity
- 2) External Examination
- 3) Tonometry
- 4) Ophthalmoscopy

Visual Acuity

The visual acuity is a measure of the integrity and function of the fovea, that area of the retina containing the highest concentration of cones and thereby functioning as the point of greatest visual discrimination. Either a wall-mounted or hand-held Snellen chart may be used to determine the visual acuity, each eye being assessed separately. The patient should always be tested with

his corrective lenses in place so as to eliminate refractive errors.

If the visual acuity measures less than 20/30, the patient may have either: 1) an uncorrected refractive error, or 2) underlying ocular or optic nerve pathology. To determine which of these alternatives is the more likely explanation for the diminished visual acuity, every clinician has at his disposal a most remarkable optical instrument: the "pinhole"! This ingenious diagnostic tool is fashioned from any heavy sheet of paper by punching a hole in it one or two millimeters in diameter (multiple holes may be more effective by enabling the patient to more easily locate the pinhole). With the opposite eye occluded, the patient holds this "lens" in front of his eye and reads the Snellen chart as he views it *through the pinhole*. If the patient has *any* refractive error—myopic, hypermetropic, or astigmatic—the "pinhole" will improve his visual acuity. If the diminished visual acuity is secondary to other pathology, however, the visual acuity will not be improved by the "pinhole" and the physician is thereby alerted to seek another explanation for the reduced visual acuity (Figure 1). (Rarely, the "pinhole" actually diminishes the visual acuity. This is usually attributable to an opacity lying within the visual axis, such as a centrally positioned cataract, or to insufficient illumination of the Snellen chart when using the "pinhole".)

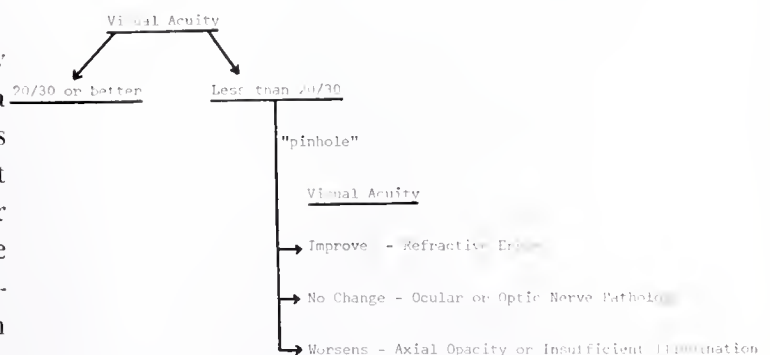


Figure 1

*c/o Lee County Cooperative Clinic, Marianna, Arkansas 72360.

External Examination

Inspection of the eyelids, conjunctiva, sclera, cornea, and anterior chamber should be performed initially.

Evaluation should be made as to whether the pupils are "equal, round, regular, and reactive to light and accommodation" (PERRRLA). The pupillary reaction is one of the most informative of all neurological signs¹ and small deviations from normal may be carelessly overlooked.

The extraocular muscles are assessed by instructing the patient to follow the tip of the examiner's finger as he moves it to the extremes of horizontal and vertical axes. The patient's corneal light reflex at all positions of gaze should be symmetrically located; an asymmetry usually signifies a strabismus.²

Tonometry

Glaucoma, the leading cause of blindness in the United States, affects two percent of all individuals over forty years of age. The pathogenesis of the chronic open-angle form of glaucoma is an idiopathic obstruction to the outflow of aqueous from the eye through the trabecular meshwork (Figure 2). The resulting elevation of intraocular pressure insidiously destroys the optic nerve. When the patient eventually becomes aware of visual difficulty, the disease is advanced, the damage already incurred is irreversible, and retention of remaining sight is rendered difficult and uncertain even with careful management.

Blindness from glaucoma is an avoidable and unacceptable tragedy in nearly all instances since the disease is easily controlled if treatment is begun early. The Schiottz tonometer is a simple and relatively inexpensive instrument which measures intraocular pressure and thereby serves

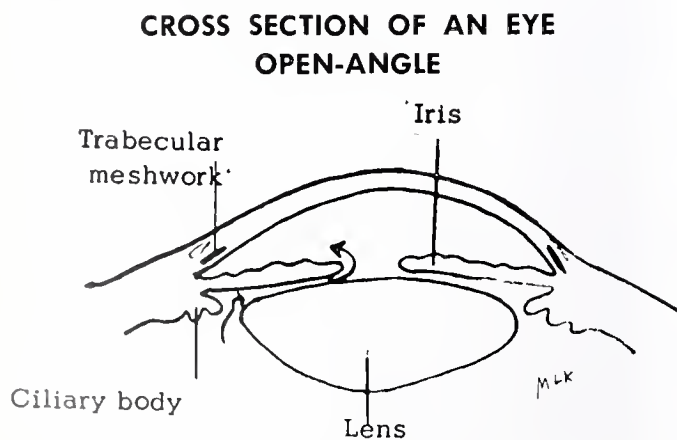


Figure 2
Arrows indicate direction of flow of aqueous. Aqueous is formed by the ciliary body and leaves the eye through the trabecular meshwork. In open-angle glaucoma there is an excessive impedance to aqueous outflow within the trabecular meshwork.

the generalist as an excellent screening tool for asymptomatic chronic glaucoma. Tonometry should be performed minimally every three years for persons over twenty years of age, and annually if there is a family history of glaucoma.

The technique of Schiottz tonometry has been discussed previously in this journal³ and only the essentials will be reviewed. With the patient lying on his back, the cornea is anesthetized with one or two drops of a topical anesthetic placed in each eye (proparacaine hydrochloride, Ophthaine®, Ophthetic®, 0.5%, is preferred by the author because of the absence of the burning sensation associated with other preparations). The patient is then instructed to look at the ceiling and to keep both eyes open without blinking. The footplate of the tonometer is gently placed upon the anesthetized cornea and the reading then converted to millimeters of mercury using the conversion table that accompanies the tonometer (Figure 3).

The patient with an intraocular pressure greater than 24 mm. Hg. deserves referral to an ophthalmologist. Other indications for referral include: 1) A disparity in intraocular pressure between the two eyes in excess of 4 mm. Hg.; 2) Evidence of glaucomatous cupping of the optic disk.

Ophthalmoscopy

Since there is an inevitable and progressive constriction of the pupils with age, it is always preferable to dilate the pupils of older patients prior to the ophthalmoscopic examination. To attempt the examination with an undilated pupil is to peek through a keyhole when the door is easily opened!

Before dilating the patient's eyes, the examiner must assess the anterior chamber angle (that angle subtended by the peripheral iris and cornea;



Figure 3
Measuring intraocular pressure with the Schiottz tonometer.

refer to Figure 2 and Figure 4). If this angle is narrow, the pupil should *not* be dilated since the iris may then obstruct the trabecular meshwork, precipitating acute *angle-closure* glaucoma (Figure 4). Note that *angle-closure* glaucoma is *not* etiologically related to chronic *open-angle* glaucoma, in which the impedance to aqueous outflow occurs within the parenchyma of the trabecular meshwork itself.

One makes an indirect assessment of the adequacy of the anterior chamber angle by directing a beam of light from the lateral side of the eye horizontally across the anterior chamber just anterior to the plane of the iris. If only that iris toward the light source is illuminated by this maneuver, the anterior chamber is assumed to be narrow and thus subject to angle-closure glaucoma (Figure 5a). If the entire iris is illuminated, the angle may be considered adequate for pupillary dilation (Figure 5b).

In dilating the pupils the author favors a weak mydriatic such as tropicamide, (Mydracyl®), 0.5%. This mydriatic is short-acting, usually sufficient for satisfactory dilatation, and rarely causes much effect upon accommodation. Pilocarpine 2% to 4% may be used to reverse its effects. The patient should nevertheless be cautioned about the possibility of blurred vision, however; particularly if he is under forty years of age or driving a car.

The ophthalmoscope is useful for more than just retinal inspection. Indeed, one should use the ophthalmoscope to inspect the cornea, anterior chamber, lens, and vitreous body before even beginning the fundusoscopic examination. This is easily accomplished by the "zeroing-in"

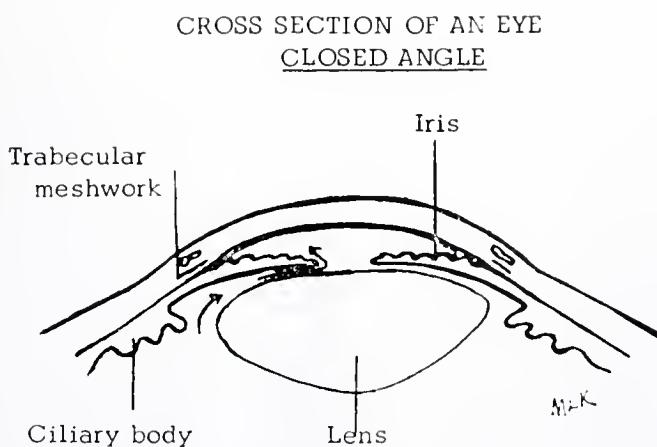


Figure 4

With angle-closure glaucoma the aqueous is denied access to the trabecular meshwork by obliteration of the anterior chamber angle.

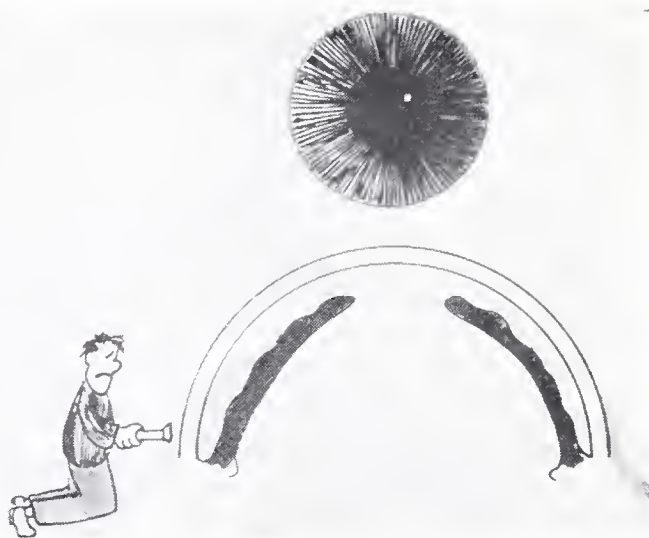


Figure 5a

The anterior chamber is narrow; only that iris toward the light source is illuminated. The pupil should *not* be dilated.

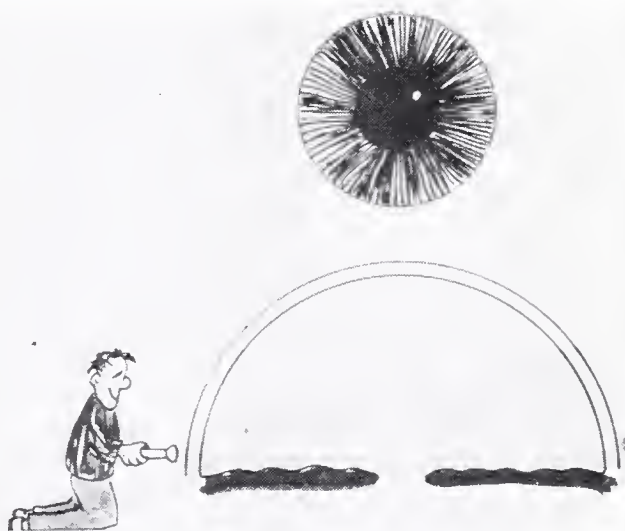


Figure 5b

The anterior chamber angle is adequate and the entire iris is illuminated. The pupil may be dilated.

technique. While at arms length from the patient, the cornea is viewed through the ophthalmoscope and brought into focus by selection of the appropriate lens. (The lens selected will be approximately two or three diopters greater than the lens customarily used for retinal inspection. Diopters are indicated numerically on the lens selection wheel, with plus dioptric lenses indicated in black, minus lenses similarly in red.) The examiner then approaches the patient while continuing to view the patient's eye through the ophthalmoscope. As the examiner approaches the patient he is optically "microtoming" the eye, bringing into focus successive planes of cornea, anterior chamber, lens, and vitreous body. After the examiner has completed this "zeroing-in" maneuver and arrives just in front of the patient's eye, subtracting two or three diopters

of lens power will bring the retina* into proper focus for the remainder of the examination.

If one desires a larger image of an intraocular structure or opacity detected by the "zeroing-in" maneuver, the ophthalmoscope is placed close in front of the patient's eye and selection is made of the *plus* lens that brings the desired intraocular object into focus. The more anterior the object is located within the eye, the higher the plus power (black numbers) required to focus upon it. A corneal lesion would require a higher plus lens than an opacity within the lens, which in turn would require a higher plus lens than a vitreous floater.

With a little practice and experimentation the ophthalmoscope can become as versatile and valuable an instrument for the generalist as it is for the ophthalmologist.

*Although a discussion of retinal pathology is beyond the scope of this paper, it is most essential that the physician be familiar with the common retinal manifestations of local and systemic disease. Excellent references are available.⁴

Conclusion

This paper has reviewed fundamentals of the ophthalmological examination for the non-ophthalmologist. The discussion has been intentionally general to provide the physician a conceptual framework which is meaningful, practical, and clinically relevant.

REFERENCES

1. Moses, R. A.: *Adler's Physiology of the Eye*, C. V. Mosby, St. Louis, 1970, pp. 382-396.
2. Johnston, G., and Roy, F. H.: Strabismus: Early Diagnosis and Treatment. *J. Ark. Med. Soc.*, 67:190-192, 1970.
3. Fraunfelder, F. T., and Roy, F. H.: When Is the Last Time You Made This Diagnosis? *J. Ark. Med. Soc.*, 67:247-249, 1971.
4. Blodi, F. C., Allen, L., and Frazier, O.: *Stereoscopic Manual of the Ocular Fundus in Local and Systemic Disease (Vol. II)*, C. V. Mosby, St. Louis, 1970.

ACKNOWLEDGMENT

The author wishes to express his appreciation to Dr. F. Hampton Roy for his review of this paper.



Round Window Ultrasonic Irradiation In Treatment of Meniere's Disease

H. A. Ted Bailey, Jr., M.D.,* and James J. Pappas, M.D.**

The purpose of this paper is to present the experience of the authors with a series of twenty-five consecutive patients having Meniere's disease and whom were treated surgically with Round Window Ultrasonic Irradiation.

Ultrasonic energy consists of vibrating sound waves of high frequency above the range of human hearing occurring between 20,000 cycles and up to 5 megacycles (Mc./s.). Ultrasonic energy, discovered in 1880 by Jacques and Pierre Curie, is produced by conversion of high frequency alternating currents in a quartz crystal to molecular movement. This is the "reverse Peizo-electric effect". Properties of this energy are a function of the frequency as well as the amplitude of the energy wave. These properties change gradually as frequencies rise. In the ultra high frequency range, ultrasound has properties more like light than sound as we usually encounter it; however, unlike light, ultrasonic energy must be propagated in a medium because of its molecular wave form. Various frequencies have been found best for specific uses.¹

Of the known biophysical effects of ultrasound, as outlined by Angell James, those present at 4 Mc./s. and using low intensity as in round window irradiation are:

1. Simple agitation.
2. Heat production.
3. Alternation of PH due to release of radicles.
4. Oxidation and degeneration of large molecules, particularly of proteins.
5. Permeability increase of membranes.
6. Increase biochemical activities of enzymes in cells.²

The conductivity of ultrasound in different media varies greatly. In air there is no conductivity at all, in bone there is poor conductivity, while in water it is conducted extremely well. During the passage of the ultra-sound waves through media, various degrees of absorption take place, and wave amplitude gradually becomes attenuated. As the energy is absorbed, it is con-

verted into heat. This has special surgical significance for easy passage through liquids cause little rise in temperature whereas poor passage through bone causes a very rapid rise in temperature. Since the central cavity of the temporal bone contains endolymph and perilymph, the ultrasonic vibrations are readily transmitted inside the inner ear. The incasing petrous bone absorbs some of the energy and some is reflected. Because of the anatomical conformation it is possible to induce ultrasonic vibrations in the fluid of the labyrinth but to restrict their destructive effect mainly to the vestibular portion. The cochlear portion receives some energy, but it is attenuated by the baffling effect of the angle at which the cochlear duct enters the vestibule, a point of particular significance in round window ultrasonic irradiation.

Animal studies with ultrasound have demonstrated histological changes in the sensorineural epithelium in the vestibule and in the basal turn of the cochlea.³ Additional evidence in experimental animals demonstrates that endolymphatic membranes may undergo a molecular change with altered permeability which affects the ion and protein gradients between endolymph and perilymph.⁴ Stahle⁵ and others have shown in animals a decrease in function of the secretory epithelium of the labyrinth. The above findings can explain how patients treated with Round Window Ultrasonic Irradiation get relief from their vertiginous symptoms and yet three months following surgery may show no change in vestibular function as noted by testing utilizing Electronystagmography.

Successful use of ultrasound in the treatment of Meniere's disease was first reported by Krejci⁶ in 1951 when he described application of ultrasonic energy externally to the mastoid cortex directed toward the inner ear. In an effort to better couple the energy to the inner ear Arslan⁷ in 1953 reported the use of ultrasound on the surgically exposed and thinned horizontal semi-circular canal.

In the following years improvements were made as regards the instrumentation, technology

*Clinical Professor, University of Arkansas College of Medicine, Department of Otolaryngology.

**Associate Clinical Professor, University of Arkansas College of Medicine, Department of Otolaryngology.

The Ear & Nose-Throat Clinic, 1200 Medical Towers Building, Little Rock, Arkansas 72205.

and surgical techniques in the use of ultrasound through the semicircular canal approach. In the early 1960's Gordon⁸ and James⁹ improved the instrumentation by designing a new probe using a circulating cooling apparatus on the probe tip and by changing the operating frequency from 900 kilocycles to 3 Mc./s. As a result of these changes the amount of heat generated was lowered and the incidence of facial paralysis and hearing damage reduced. Of special significance was the introduction by Kossoff in 1962,¹⁰ with the help of the Commonwealth Acoustics Laboratory in Australia, of a pencil size ultrasound applicator consisting of a 3 Mc./s. focused transducer, a water coupling chamber and a tubular body. The configuration of the transducer focused the energy immediately in front of the water coupling chamber. The focusing action was considered a major advantage and resulted in a further lowering of the incidence of facial paralysis. Facial paralysis was reduced by decreasing the heat production and by reducing the size of the beam of ultrasonic energy emitted by the smaller probe. The spread of ultrasonic energy into the cochlea with concomitant hearing loss is limited by increasing the frequency to 4 Mc./s. per second. (Fig. 1)

In 1967 Kossoff¹¹ suggested changing the method for the coupling of the energy to the inner ear by directing the energy through the round window membrane. This approach removed all bony barriers and allowed a more direct application of the energy. The utricle, saccule and the ampullae of the lateral and superior canals received the full irradiation, whereas the cochlea being at an angle was better protected from the ultrasonic beam. Kossoff demonstrated that when using ultrasonic energy

through a properly prepared blue line (.25mm.) on the horizontal canal, only 25% of the energy actually passed through the bone and less than 10% was calculated to effectively reach the sensorineural epithelial structures in the vestibular labyrinth.

Therefore, since essentially no energy is absorbed by the round window membrane, Kossoff theorized that only 1/10 of the amount of energy required through the semicircular canal approach would be necessary for effective treatment, and the energy dosage reaching the membranous labyrinth could be accurately measured. The wattage necessary with the semicircular canal approach for successful treatment had been found to be 400 milliwatts. Therefore, the wattage necessary through the round window was calculated to be 1/10 of 400 milliwatts (40 milliwatts). Commonwealth Acoustic Laboratory produced a 3½ lb. generator producing a 4 Mc./s. frequency with a voltage selector allowing use of 20 to 70 milliwatts (in 10 mw steps) and a small 1.5mm. applicator for use in the round window. Moving the ultrasound applicator from the thinned horizontal canal to the round window area virtually eliminated the complication of facial paralysis, the need for a mastoidectomy, shortened the operating time, and reduced spread of the ultrasonic waves into the cochlea.

With the elimination of the complication of facial paralysis, ultrasound treatment became a very appealing surgical method for the relief of recurrent attacks of vertigo in patients with Meniere's disease. Our interest in using ultrasonic irradiation via the round window membrane was stimulated by a paper presented by Pennington¹ et al in January, 1970, and subsequently through a course at the American Academy of Ophthalmology and Otolaryngology on Ultrasonic Irradiation for use in Meniere's disease presented by Pennington, Basek and Ginsburg. After almost a years' delay in obtaining the equipment from the Commonwealth Acoustic Laboratory in Australia, we first applied this method of surgical treatment to a patient with Meniere's disease in late January, 1972. As of March 1, 1975, twenty-five patients have been treated with a minimum of one month follow-up.

SELECTION OF PATIENTS

Only those patients with classical Meniere's disease who were poorly responsive or unresponsive to medical management as regards control of

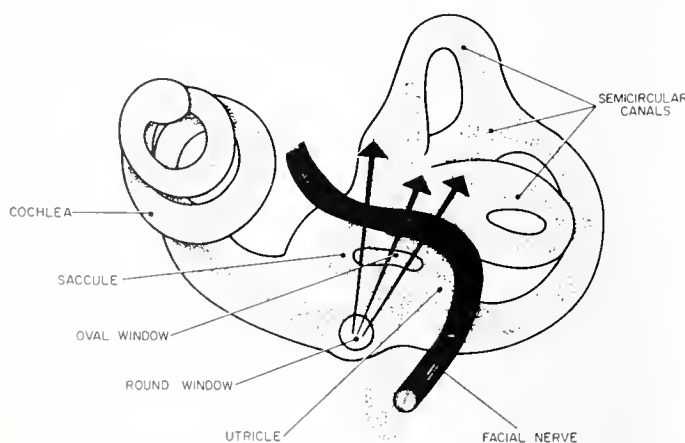


Figure 1

Direction of ultrasonic energy through round window inferior to oval window and facial nerve and into balance structures in vestibule and semicircular canals.

vertiginous symptoms were selected for treatment with ultrasound through the round window. This explains the relatively small number of patients treated with ultrasonic irradiation from the numerous patients that we have diagnosed as having Meniere's disease during this three year period. During 1972 and most of 1973 our inexperience with ultrasound and the uncertainty of the results acted as a deterrent to offering this treatment to our patients. As experience grew and good results were obtained, we began during 1974 and currently to advocate this treatment once it appears the patient is poorly responsive to medical control or unwilling or unable to stay on proper medical management. Since hearing is unaffected, surgical treatment with ultrasound is possible for those individuals that develop bilateral Meniere's disease.

WORK-UP

All patients suspected of Meniere's disease have the following work-up:

1. History

First and most important is a carefully taken history. Prior to seeing the physician, a detailed questionnaire is filled out by the patient in order to prevent the physician from missing an important fact that might be otherwise overlooked in the less formalized history taking interview. Special attention is directed toward learning of medications currently being ingested.

2. Physical Examination

Thorough examination of the ears, nose, mouth, throat, nasopharynx, larynx, head and neck is performed with particular attention given to auscultation over the carotid vessels to determine the presence of bruits. Simultaneously, the cranial nerves (with the exception of cranial nerve II) are evaluated during the physical inspection. The optic nerve (II) must be evaluated with the use of the ophthalmoscope for the evaluation of the optic disc. Tests for coordination, station and gait are routinely included. The blood pressure is evaluated and measured in both arms to rule out a sub-clavian steal syndrome.

3. Audiometric Evaluation (cochlear system)

a. Routine

Pure Tone Audiometry
Air Conduction
Bone Conduction

Speech Audiometry

Speech Reception Threshold (SRT)
Speech Discrimination Testing

Impedance Audiometry

Tympanometry
Acoustic Reflex Testing

b. Other Tests as Indicated

Short Increment Sensitivity Index (SISI)
Tone Decay Test (TDT)
Alternate Binaural Loudness Balance (ABLB)
Bekesy Audiometry
Sweep Frequency Tracing
Fixed Frequency Tracing

4. Electronystagmographic (ENG) Evaluation (vestibular system)

a. Routine (in order of performance)

Calibration
Test for gaze nystagmus
Test for spontaneous nystagmus (head erect)
Test for positional nystagmus (4 additional head positions)
Bithermal caloric testing
Warm (44°C.) water—right and left
Cool (30°C.) water—right and left
Re-calibration
Hallpike positional testing

b. Other Tests as Indicated

Optokinetic testing (slow and fast)
Eye tracking (pendulum)

5. X-Rays

a. Routine

Petrous pyramid x-rays

b. As Indicated

Polytomography of internal auditory canals
Posterior fossa myelogram

6. Laboratory

a. Routine

CBC
Urinalysis
T-4 (thyroid)
Lipid Profile
Serum cholesterol
Serum triglyceride
Lipoprotein Electrophoresis
Blood Sugar
Fasting
1 hr. post glucola
FTA-ABS test (lues)

b. As Indicated

5 hr. glucose tolerance test

7. *Allergy Work-Up* as indicated by history

MEDICAL MANAGEMENT

Williams suggested Meniere's disease may be a dysregulation of the microcirculation of the labyrinth resulting from a number of etiologies and apparently it is an otological manifestation of a broader medical problem. Direction of treatment must be to the patient as a whole and not limited simply to the ear. Therefore, medical management of Meniere's disease frequently requires a change in the patient's life style. The correction of the inner ear dysfunction often hinges on the avoidance of such factors as stress, tobacco, coffee or tea, chronic physical fatigue, overeating and underexercising. Unfortunately, the patient is frequently unable or unwilling to change his way of life which makes medical management difficult if not impossible.

Our patients with Meniere's disease all receive medical treatment as listed below numbers 1 thru 6, and many receive on a selective basis one or more of the medications listed under number 7.

MEDICAL MANAGEMENT

Routine:

1. Diet—management depends on patient's general health, state of nutrition, body weight and results of metabolic studies.
2. Rest and Recreation—a program is given for sufficient rest and regular effective exercise commensurate with the patient's general physical condition.
3. Stress—the avoidance of undue or unnecessary stress or tension is carefully discussed.
4. Smoking—interdiction of smoking is absolutely necessary because of the known resulting vasoconstriction from nicotine.
5. Salt—all patients are directed to eliminate use of table salt and avoid foods with high natural salt content. A list of foods having high salt content is provided.
6. Diuretics—this group of drugs is the most important medication that we have found to help patients' symptoms especially in early stages of Meniere's disease.

Selective:

7. Medications selectively administered are:
 Vestibular suppressants—Valium,
 Antivert

Anticholinergic—Atropine, Hyoscine,
 Probanthine
 Sedatives—Sodium Butasol, barbiturates.
 Tranquilizers—Librium, Valium,
 Thorazine
 Anti-emetics—Tigan, Torecan, Compazine,
 Phenergan, Thorazine
 Vasodilators—Arlidin, Histamine (I.V.,
 sub-cutaneous or sublingual)

SURGICAL TECHNIQUE

Working through a speculum in the ear canal under microscopic magnification using ten to sixteen power, a small stapes type incision is made in the canal close to the drum, allowing the canal skin and drum to be elevated and laid forward, exposing the posterior half of the middle ear contents. Good visualization of the two windows opening into the inner ear is obtained. Removal of a small portion of the bony posterosuperior canal wall reveals the oval window closed by the stapes footplate. Just inferior to the oval window is the round window measuring 2 mm. x 1½ mm. and closed by a small membrane, lying in the plane of the stapes crura. The round window lies at the top of an open recess called the round window niche. Ultrasonic Irradiation is administered through a 1 mm. applicator placed into the round window niche up near the round window membrane. In most cases it is necessary to drill down bone on the floor, the anterior-superior lip, and the posterior-inferior lip of the niche to permit introduction of the round window ultrasonic probe for proper irradiation. Special care must be taken with the drill point, suction tip, and ultrasonic probe to prevent rupture of the round window membrane which would result in total loss of hearing. Once the niche is prepared, it is filled with a few drops of saline to provide a liquid medium necessary for the transfer of the ultrasonic energy from the applicator through the round window membrane into the labyrinthine fluids and the neurosensory epithelium and membranes. (Fig. 2) Caution: should the applicator be removed from the saline while the generator is on, the quartz crystal will burn out in a very few seconds, inactivating the probe.

An ultrasonic frequency of 4 Mc./s. is used for Round Window Irradiation. Treatment is begun at a setting of 30 milliwatts and treatment routinely consists of a series of ten separate

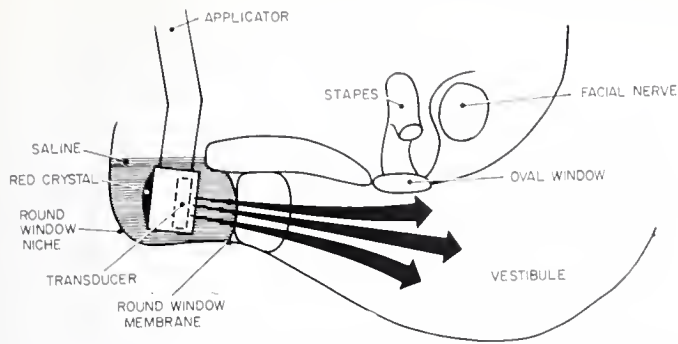


Figure 2

Ultrasonic energy beamed from applicator into balance portion of inner ear.

applications of ultrasonic irradiation with each application lasting two minutes, for a twenty minute total irradiation time. After each application the probe is removed from the ear allowing cooling of the bone around the round window and removal of the saline from the niche followed by replacement with fresh saline. During the interval of time while the saline is being removed and replaced, the probe is cooled in a small glass of saline. After two to three applications if the patient shows only a weak irritative nystagmus and mild vertigo, the setting is increased to 40 milliwatts. It is held at this setting for the remainder of the treatment unless the patient has no sensation of vertigo or nystagmus, in which case the wattage is increased to 50 milliwatts and treatment is completed at this setting. Should the patient at any time become acutely dizzy, hot and perspiring, and/or nauseated, the irradiation should be interrupted momentarily, antiemetics and oxygen administered, and the power dropped down to the next lowest setting. It may not be possible to give the full two minutes irradiation without producing intolerable vertigo and/or nausea. In this case the irradiation time is simply reduced to the point the patient can tolerate the treatment without becoming acutely ill. Shortening the application times results in the need for increased number of applications in order to give a total of twenty minutes of irradiation.

Varying degrees of vertigo and even nausea are usually experienced on the operating table but the irritative nystagmus is replaced after the first few minutes by a pseudoparalytic horizontal or rotary nystagmus which usually is present for only a few minutes or a few hours after surgery. Post-operative vertigo and nausea is minimal and usually absent within 24 hours. The patient is discharged from the hospital with 25 mg. Benadryl capsules with directions to take one after each meal and with orders to continue this

for one month at which time the patient returns for the first post-operative examination. Advice is also given to continue salt restriction and any other prior dietary management along with abstinence of smoking.

RESULTS

Our results with twenty-five cases of Round Window Ultrasonic Irradiation performed from January, 1971, to March, 1975, indicates nine of our cases (36%) obtained complete relief from vertigo, nine cases (36%) had relief from attacks of vertigo but complained of some mild transient sensations of imbalance. Six cases (24%) had some improvement or lessening of the degree of the intensity or frequency of attacks but not to a sufficient degree that the patient was satisfied with the operative results, and therefore, these cases were considered to be unchanged. One case (4%) showed no improvement, but in none of the cases were symptoms of vertigo made worse.

Evaluating hearing results following surgical treatment of Meniere's disease is perplexing at best because of the known fluctuations in hearing which is a characteristic of the disease process itself. We used a plus or minus 20 db change in the average of 500, 1000 and 2000 Hertz or a change in discrimination of more or less than 20% as necessary for the hearing to be considered either improved or worsened. With this category requirement we found in twenty cases (80%) hearing to be unchanged, three cases (12%) had improved hearing, and two cases (8%) had hearing made worse. Tinnitus seemed to be essentially unaffected as only one case declared the tinnitus to be worse and one case felt the tinnitus to be improved. Vestibular function was evaluated in fourteen cases by Electronystagmography at three to four month post-operative visits. Comparison of pre and post-operative nystagmograms indicated no significant changes in any of the cases tested.

SUMMARY

Ultrasonic Irradiation in Meniere's disease offers the patient the opportunity to obtain relief from his vertigo without risking the dangers inherent with surgical procedures that require opening the labyrinth. The round window approach for ultrasound therapy eliminates the need for a mastoidectomy, shortens the operating time, essentially eliminates the complication of facial paralysis, and reduces chances of causing

harm to the remaining hearing. There is almost no morbidity and no post-operative vestibular symptoms. While the number of cases treated in our series is small (25) we feel that added significance may be given to the results obtained in view of the severity of the vertigo that was experienced prior to surgery in the cases selected. Our series confirms earlier reports of success with Round Window Ultrasonic Irradiation by Basek and Pennington, as our results (Table I) indicate that relief from vertigo (complete to greatly improved) was obtained in 72% of cases, hearing was unharmed in 92%, and tinnitus was basically unaffected as was vestibular function as shown by ENG.

Until we gain a better understanding of the pathologic processes in Meniere's disease and until there is a more definitive surgical procedure, we agree with Hilger¹² that whatever surgical procedure is used in the interim should cause as little destructive vestibular changes as possible without damaging the remaining hearing. In our opinion, Round Window Ultrasonic Irradiation best meets these requirements, therefore we plan for the present to continue to offer this surgical therapy to our cases of Meniere's disease whose vertigo is not adequately relieved by our medical management.

TABLE I
RESULTS: 25 CASES

	IMPROVED	UNCHANGED	WORSE
VERTIGO	18 (72%) (9 completely relieved)	7 (28%)	0
HEARING	3 (12%)	20 (80%)	2 (8%)
TINNITUS	1 (4%)	23 (92%)	1 (4%)

BIBLIOGRAPHY

1. Pennington, C. L.; Stevens, E. L.; and Griffin, W. L.: The Use of Ultrasound in the Treatment of Meniere's Disease. *Laryngoscope*, 80: 579-580, 1970.
2. James, J. A., et. al.: The Physical and Biological Properties of Ultrasound and Clinical Experience. *Acta Oto-Laryngologica*, Sup. 192: 134-138, 1964.
3. Basek, M.: Treatment of Meniere's Disease with Ultrasound (Round Window Technique). *Laryngoscope*, 80: 768-776, 1970.
4. Hughes, D. W., and Chou, J. T. Y.: The Biochemistry of the Inner Ear and the Consequences of Treatment by Ultrasound. *Acta Oto-Laryngologica*, Sup. 192: 199-205, 1964.
5. Stahle, J.: Some Effects of Ultrasound on the Inner Ear. *Acta Oto-Laryngologica*, Sup. 192: 192-198, 1964.
6. Krecjci, F.: 1952 Experimentelle Grundlagen Einer Extra Labyrintharen Chirurgischen. Behandlungsmethode der Menierscher. *E. Pract Otorhinolaryng.*, 14: 18-19, 1952.
7. Arslan, M.: Treatment of Meniere's Syndrome by Direct Application of Ultrasound Waves to the Vestibular System. *Proceedings of the International Congress of Otolaryngology*, Amsterdam: 429-436, 1953.
8. Gordon, D.: *Ultrasound—As a Diagnostic and Surgical Tool*. Williams and Wilkins Company, Baltimore, Md., 1964.
9. James, J. A., et. al.: A New 3 megacycle generator for Destruction of the Vestibular End Organ. *Acta Oto-Laryngol.*, 56: 147-153, 1963.
10. Kossoff, G.; Khan, A. E.; and Farrant, R. H.: The Use of CAL Ultrasonic Generator in Meniere's Disease. *Jour. Laryngol.*, 78: 243-247, 1964.
11. Kossoff, G.; Wadsworth, J. H.; and Dudley, P. F.: The Round Window Ultrasonic Technique for Treatment of Meniere's Disease. *Arch. Otolaryngol.*, 86: 535-542, 1967.
12. James, J. A.: Ultrasonic Technique and the Treatment of Meniere's Disease; in Pulec, Jack (ed.): *Meniere's Disease*. W. B. Saunders and Company, Philadelphia, Penn.; 569-574, 1968.





Office Orthopaedics

Nerve Block Anesthesia for Minor Hand Surgery

R. Barry Sorrells, M.D.*

Complicated emergency and reconstructive surgical procedures of the upper extremity, especially the hand, usually require tourniquet control to assure a bloodless field and unobscured vision. In order to tolerate the tourniquet more than 15-20 minutes the patient usually requires either a general anesthetic or regional anesthesia of the entire upper extremity. The regional anesthesia may be either axillary or supraclavicular nerve block or intravenous regional anesthesia. The anesthetic choice is made depending on individual patient factors and the preference of the surgeon and/or anesthesiologist.

Minor hand surgical procedures are frequently carried out in the practice of Emergency Room and Office Orthopedics. Anesthesia in these cases is most commonly accomplished by local infiltration at the operative site. Distal nerve block anesthesia, however, may afford better control of pain and avoid the need to inject anesthetic at the operative area. The treating doctor, therefore, should be familiar with the types of distal nerve block (especially wrist and digital) anesthesia and their application.

For operations distal to the wrist that do not require prolonged application of an upper arm tourniquet, wrist and digital nerve blocks offer many advantages over a general or proximal block anesthetic. Some of these advantages are:

1. Ease of administration
2. Lessening of side effects and procedural complications
3. Maintenance of motor function and ease of functional assessment in the cooperative patient
4. Evaluation of cross innervation by selective nerve block

The main advantages of nerve block anesthesia over local infiltration anesthetic are:

1. Avoidance of further edema, trauma, and introduction of contamination at the injury site
2. Avoidance of added anatomical distortion at the operative area

PRINCIPLES

A knowledge of the sensory distribution of the nerves at the wrist is mandatory. The dermatomal pattern is basically constant, (Fig. 1) although cross innervations and anomalous distributions do occur. Nerve block at the wrist will yield anesthesia only in that zone of the hand supplied completely by the specific nerve. Obviously when there is dual innervation and sensory overlap both nerves must be blocked and this is relatively simple.

The anesthetic injection must be *around* the nerve, not into it to avoid injury to neural substance. Paresthesias are not sought and as the following anatomic description explains, positioning of the needle is of tantamount importance; but this is easily accomplished.

An attempt at aspiration should always precede injection to avoid intravascular injection. If blood is aspirated, the needle is redirected prior to injection.

Anesthesia with epinephrine should never be used in distal nerve block anesthesia to prevent constriction of the small distal vessels and resultant digital ischemia and gangrene.

Depending on the agent used, the maximum total safe dosage must be calculated prior to injection and this dose not exceeded. The author usually uses 1% or 2% Lidocaine (Xylocaine®) in a dose not to exceed 3 mg/kg of body weight, the total dose not to exceed 300 mg. Generally 3 or

*Little Rock Orthopedic Clinic, P.A., P. O. Box 5270, Little Rock, Arkansas 72205.

4 cc. of 2% Lidocaine will provide excellent anesthesia for each nerve at the wrist or pair of digital nerves blocked.

A small (23 or 25 gauge) needle in a 5/8" length is recommended to limit pain and avoid undue trauma to soft tissues and nerve.

Median Nerve Block (Wrist Level)

Anatomic Relationships: At wrist level the median nerve lies just beneath the volar fascia, less than 1.5 cm. beneath the skin. The nerve lies near the midline just deep to and between the palmaris longus and flexor carpi radialis tendons (Figs. 2 & 3).

Technique: The palmaris longus and flexor carpi radialis tendons are easily demonstrated when the patient opposes the tip of the thumb and the small finger and flexes the wrist. At wrist crease level, the needle is introduced through the prepared skin between the tendons, some 1 to 1.5 cm. into the loose areolar tissue and about 3 or 4 cc. of solution is injected. Adequate anesthesia will occur in 10 to 15 minutes and should include the radial portion of the palm, the volar and dorsal aspect of the radial three digits (thumb, index, and long fingers) and in most patients, the radial half of the ring finger (Fig. 1).

Ulnar Nerve Block (Wrist Level)

Anatomic Relationship: At wrist level the ulnar nerve lies deep to and between the flexor carpi ulnaris tendon and the ulnar artery (Figs. 2 & 3). The nerve lies just beneath the fascia, a few millimeters deeper than the median nerve.

Technique: The flexor carpi ulnaris can be palpated when the wrist is flexed with the fingers fanned. The needle is inserted between the

flexor carpi ulnaris and the ulnar artery which can be easily palpated. After attempted aspiration to assure clearance of the ulnar artery, injection just beneath the fascia should bathe the ulnar nerve. An additional small amount of anesthetic is infiltrated into the subcutaneous tissue around the volar ulnar aspect of the wrist to catch the dorsal cutaneous branch of the ulnar nerve which is given off about two inches proximally and supplies the ulnar, dorsal hand. Ulnar block as described should provide anesthesia for the volar and dorsal surfaces of the ulnar portion

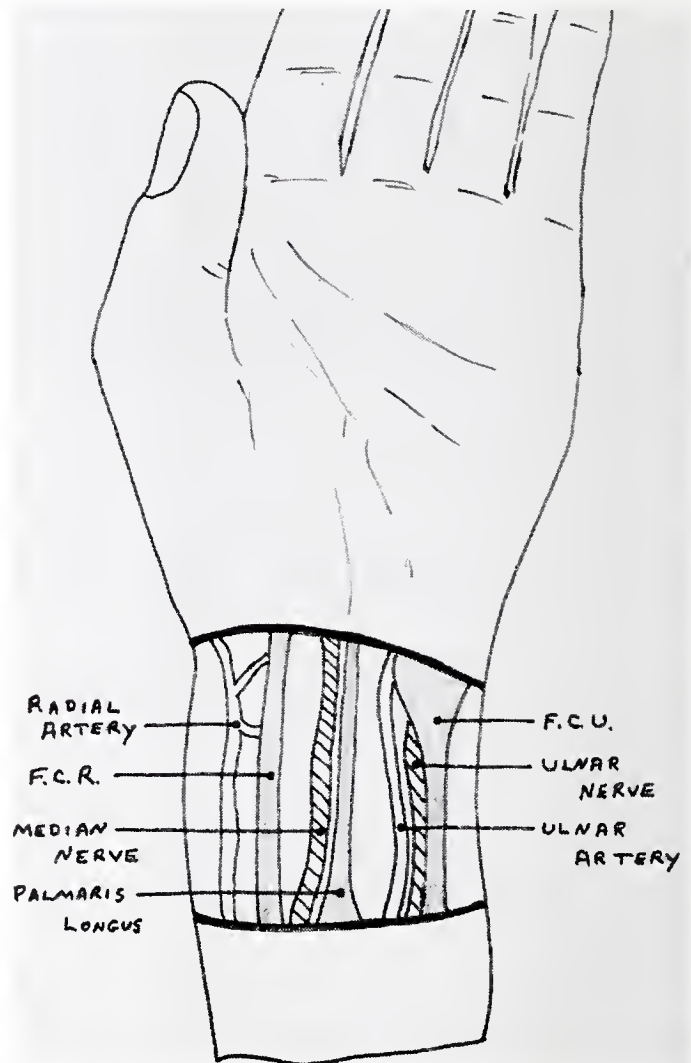


Figure 2
Anatomic Relationships at the Wrist.

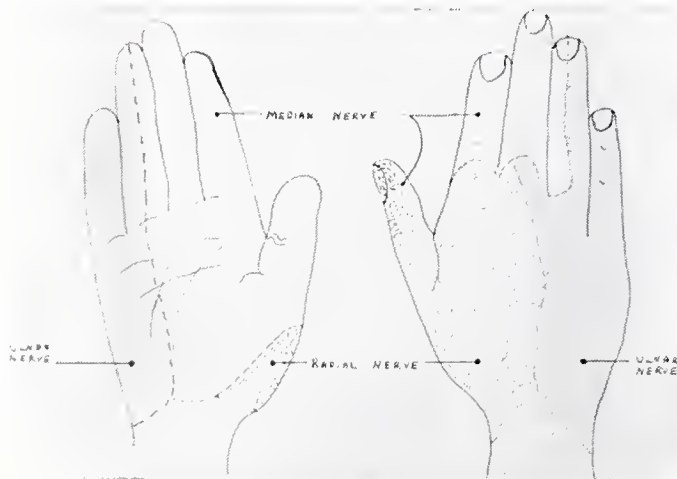


Figure 1
Dermatomal Sensory Pattern of the Hand.

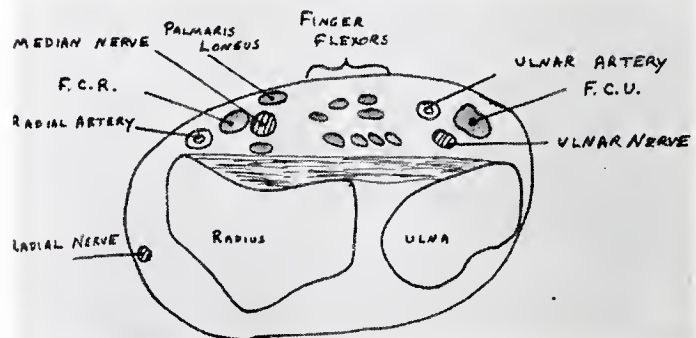


Figure 3
Cross Sectional Anatomy at Wrist Level.

of the hand, including the entire small finger, and the ulnar half of the ring finger (Fig. 1).

Radial Sensory Nerve Block (Dorsal Wrist Level)

Anatomic Relationships: At wrist level, on the dorsum, the radial nerve now purely sensory, fans out around the radial dorsal wrist just beneath the skin directed toward the base of the thumb (Figs. 3 & 4).

Technique: Just proximal to the radial styloid process 4 or 5 cc. of anesthetic are injected into a subcutaneous and intradermal cuff around the radial one-third of the wrist. This should anesthetize the extensor surface of the thumb web and the radial portion of the dorsal hand, the thumb, and index finger (Fig. 1).

Digital Block

Frequently, only the finger need be anesthetized. A digital nerve block should suffice. The anesthesia is usually superior to local infiltration and the advantage of avoiding distortion at the operative site is more apparent in the limited space of the finger.

While excellent block of the nerve can be accomplished by "ring" infiltration at the base of the finger, the author agrees with others^{3,5} that digital blocks are best administered into the lumbrical canal. Infiltration of anesthetic around the base of the digit is painful. Furthermore, it causes local tissue pressure and a secondary decrease in venous drainage, thus increasing the distal venous pressure and subsequent swelling within the digit. This results in further compromise of tissues already damaged by trauma or surgery.

In contrast, the common digital nerves in the lumbrical canals are surrounded by loose fibroareolar tissue. An anesthetic injected into this area will readily diffuse around the digital nerves without causing excessive local pressure.

Anatomic Relationships: Both common digital

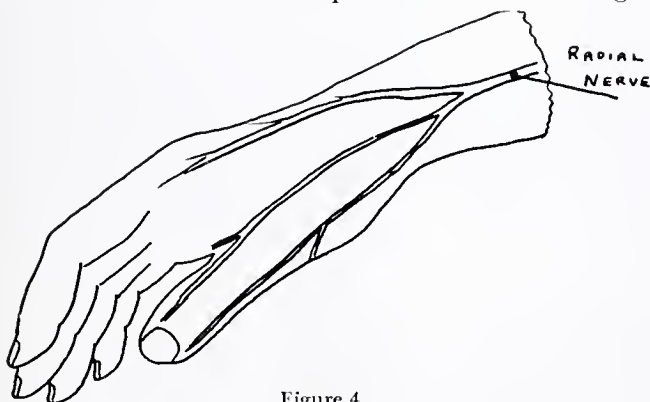


Figure 4
Radial Nerve at Wrist and Hand Level.

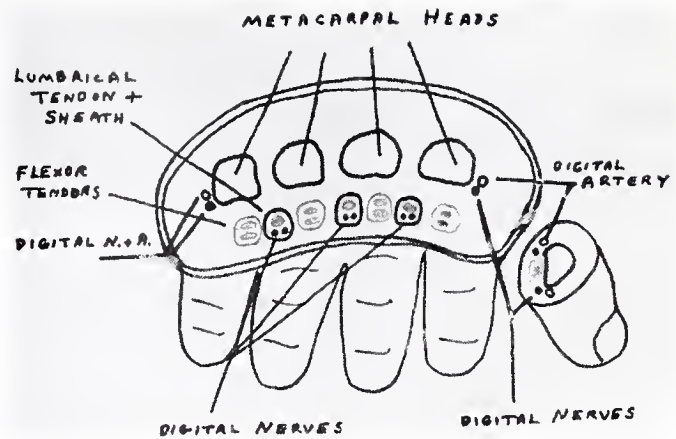


Figure 5
Cross Sectional Anatomy at the Metacarpal Heads.

nerves and arteries divide proximal to the web and supply the sides of adjacent fingers. In the web space, these sensory nerves are just volar to the lumbrical tendons (Fig. 5). Since there are no lumbrical sheaths to carry the digital nerves to the radial side of the index finger, the ulnar side of the little finger, and the flexor surface of the thumb, these nerves pass in the fatty tissue just volar to the respective metacarpal heads.

Technique: To block the common digital nerves, the needle is introduced 1.5 cm. into the web space in the plane of the palm. Following attempted aspiration, 2 or 3 cc. of anesthetic are injected.

To block those nerves without lumbrical canals, i.e., those to the flexor surface of the thumb, the radial aspect of the index finger, and the ulnar border of the small finger, the fatty tissue overlying the corresponding metacarpal head is infiltrated with 2 cc. of anesthetic.

Summary

For minor hand surgery not requiring prolonged tourniquet control of bleeding, wrist and digital nerve block anesthesia can provide pain control often superior to local infiltration at the operative site.

BIBLIOGRAPHY

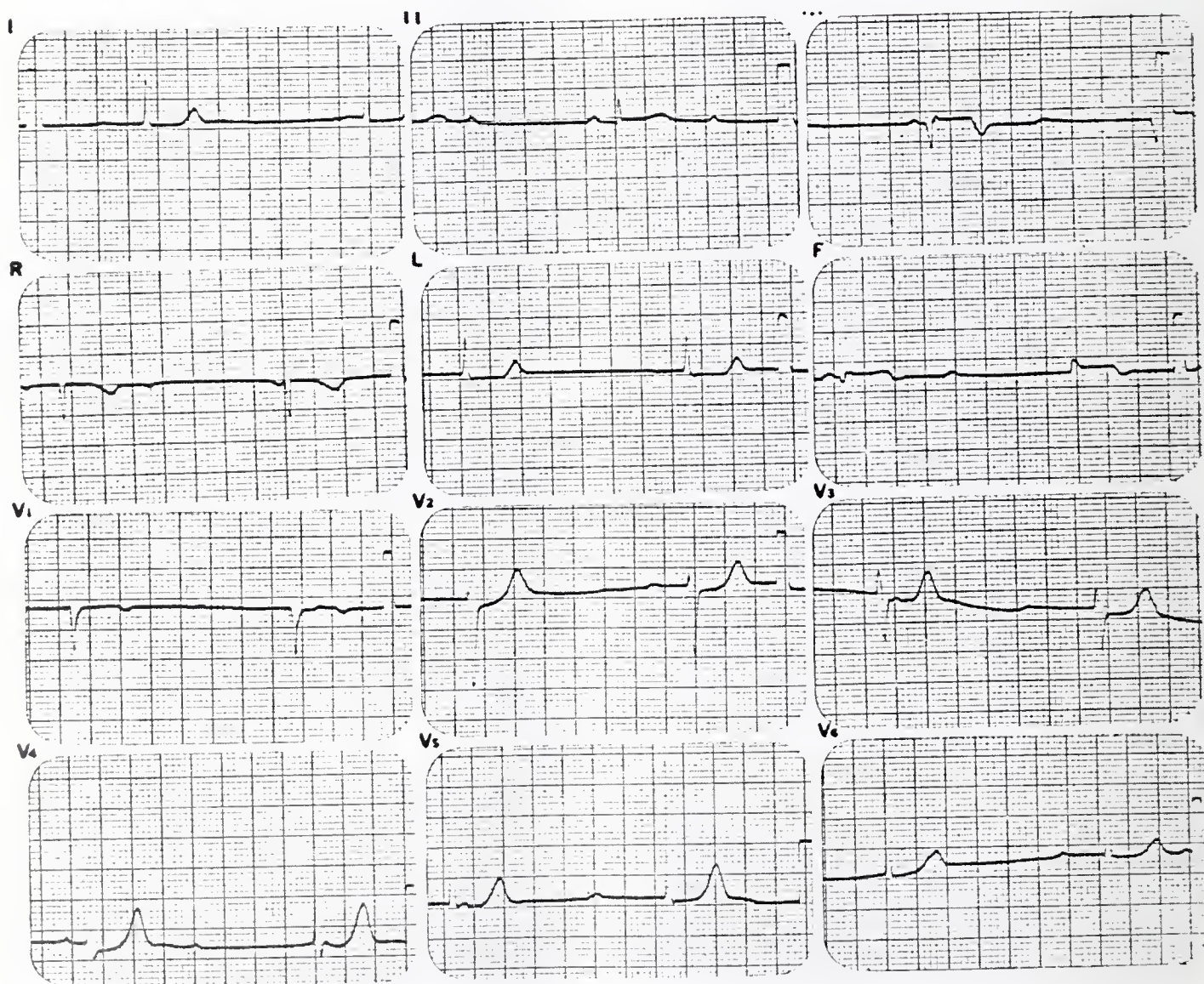
1. Adams, J. P., Dealy, E. J., & Kenmore, P. L.: Intravenous regional anesthesia in hand surgery. *J.B.J.S.* 46A:811, 1964.
2. Bonica, J. J.: Regional anesthesia for surgery. *Clin. Anesth.* 2:123, 1969.
3. Burton, R. I. & Kamel, W. M.: Hand Surgery: Distal Conduction Anesthesia. *Contemp. Surg.* Vol. 6:46, 1965.
4. DeJong, R. H.: Modified axillary block with block of the lateral antebrachial cutaneous (terminal musculocutaneous) nerve. *Anesthesiology* 26:615, 1965.
5. Eaton, R. G.: *Joint Injuries of the Hand*, Springfield, Ill., Chas. C. Thomas, 1971.
6. Hawkins, L. G., Storey, S. D., & Wells, G. G.: Intravenous lidocaine anesthesia for upper extremity fractures and dislocations. *J.B.J.S.* 52A: 1647, 1970.



The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 403)

A 78-year-old man complained of chest pain, nausea and diaphoresis. This ECG was taken five days after admission.



Malcolm B. Pearce, M.D.
Associate Professor of Medicine
University of Arkansas for Medical Sciences
Little Rock, Arkansas 72201

Toxicology Update

from the Arkansas poison control—
drug information center

Emergency poison or drug information for
health professionals only.

Pulaski County: 666-5532 • WATS: 1-800-482-8948

Plants Pose Potential Problems

D. Karrol Fowlkes*

Approximately one out of every ten poison calls to the Arkansas Poison Control-Drug Information Center concerns some type of plant. Nationally, 5% of all calls to Poison Control Centers involve plant materials. It is fortunate, indeed, that only a small percentage of all the plants known cause toxic reactions. Of these "poisonous" plants most are considered mildly toxic in small amounts, usually, causing local irritation and gastrointestinal symptoms. However, there are a few plants that can be extremely toxic if eaten in sufficient quantity. The type of plant, the amount ingested, the particular part ingested, the season of the year, and the age and size of the person who ate it must be considered in every suspected ingestion of plant material. The name of a plant is often a problem in itself. The common and colloquial names for a plant vary from area to area. Most often, the common names of house plants are known by the owners. In some instances a plant taxonomist is required to truly identify a particular plant, as in the case of mushrooms. Since positive identification is often unavailable, a good description of the plant is helpful. We have found texts of common names and synonyms to be helpful in pinpointing a particular plant.

The Poison Control Center can aid in identification of the plant and can provide information as to toxicity, signs and symptoms, and treatment.

The plants which are discussed below are known to have caused internal poisoning in humans. Only those which are routinely encountered in our Center are included in this brief review.

Mushrooms—There are several thousand species of mushrooms in the United States. Of

these, a relatively small number are toxic. However, there is little if any recognizable difference between the poisonous varieties and the edible ones. Poisonous and edible forms of mushrooms may not only look alike but may grow together, even in the same formation. No attempt will be made here to describe the poisonous species, but a few of the more important and common types will be discussed briefly.

1. *Amanita phalloides*, *A. verna*, *Galerina* species and others contain a complex polypeptide (amanitine and phalloidine). There is commonly a long asymptomatic period (6-24 hours) followed by extreme abdominal pain, profuse vomiting and distorted vision. Degenerative changes can occur in the kidney, liver, and cardiac musculature with circulatory failure and coma following in 2-10 days. One or two mushrooms of this type, raw or cooked, may be fatal. Mortality is said to be as high as 50 to 90 percent.
2. *Amanita muscaria* and *Clitocybe* species contain choline and muscarine which can cause rapid symptoms within 2 hours after ingestion. The symptoms commonly seen are excess tearing and salivation, excess sweating, slow pulse, contracted pupils, abdominal cramps, vomiting, and difficult breathing. The symptoms may be severe but are rarely fatal.
3. *Psilocybe* contains psilocybin and psilocin which are hallucinogenic compounds producing visions, optical distortions, and a smothering feeling.
4. *Gymnoma* or the *False Moulds* characteristically cause systemic symptoms while affecting the central nervous system. Early

*Co-Director, Poison Control-Drug Information Center, College of Pharmacy, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72201.

symptoms are diarrhea, vomiting, loss of muscular coordination, and severe headaches.

5. *Boletus*, *Clitocybe*, *Coprinus*, *Lactarius*, *Lepiota*, and *Russula* contain gastrointestinal toxins. These are strong purgatives causing nausea, vomiting, diarrhea, and hallucinations.

"Mushrooming" seemed to be quite popular in certain areas of South Arkansas last summer. The physician should be aware that certain young people have been seeking out the "hallucinogenic" mushrooms. There have been reported cases where poisonous mushrooms have been consumed resulting in marked illness instead of the desired "high" of the *Psilocybe*.

**Caladium, Elephant Ear, Dumbcane,
Diffenbachia, Philodendron**

All of the plants named above are members of the *Arum* family and all contain essentially the same toxic constituents. The entire plant contains crystals of calcium oxalate and some type of proteolytic enzyme which produces severe irritation of any mucous membranes contacted. The intense irritation of the mucous membranes may produce severe edema and swelling of the tongue, lips, palate, and buccal surfaces, thereby limiting swallowing and/or respiration.

Narcissus, Jonquil, Daffodil

All these plants, members of the *Amaryllis* family, are extremely popular spring flowering plants. The bulbs of this group will cause nausea, vomiting, diarrhea, trembling, convulsions and may even be fatal if eaten in quantity.

Pokeberry, Poke, Pokeroot, Poke Salad

Of course, all the names above refer to Poke-weed, a member of the *Phytolaccaceae* family. This native perennial herb is commonly seen in open fields, along fences, roadsides and other areas of rural Arkansas. The entire plant is considered poisonous, in particular the root, leaves and green berries. When the leaves are properly cooked it is edible (poke salad). Par-boiling the leaf, with disposal of the first and

last cooking water, is necessary to remove the toxic principle. The green (immature) berries are much more toxic than the purple (mature) berries seen later in the season. Pokeroot has sometimes been mistaken for horseradish or parsnips.

Eating of the poisonous parts of the plant can cause severe stomach cramps and pain, nausea with persistent vomiting, diarrhea, slowed and difficult breathing and convulsive tremors may be seen.

Holly Berries

The Holly plant is an evergreen tree or shrub that displays bright red berries in late summer and fall. The berries are toxic, producing gastroenteritis, vomiting, diarrhea, stupor, narcosis and central nervous system depression if eaten in quantity.

Pyracantha, Nandina and Liriope Berries

These plants and their berries are often present in yard settings for their decorative appearance. The berries of all three plants have not been reported to be toxic, however, caution should be observed if consumed in any quantity.

As our society becomes more and more urbanized, one might assume that human plant poisoning is no longer a problem as was the case in our former agrarian society. This is not the case, for current trends such as the "return to nature" movement brings families into direct contact with potentially toxic plants through hiking and camping activities. In addition to this, our suburban environment has provided space for large lawns, gardens, patios, and limitless house plants. All these factors mean that poisonous plants can be, and still are, the cause of serious illness or even death among children and adults.

It is not my wish to recommend the elimination or eradication of potentially toxic plants. I did wish, however, to call attention to a few of the poisonous plants as potential hazards that surround us so that we are more aware of the danger and that appropriate precautions may be taken.





PUBLIC HEALTH AT A GLANCE

Arkansas Mobile Home Standards Program

James Shelton, Director*

Act 510 of 1973 provided for the Arkansas Uniform Mobile Home Standards Program under a nine member Mobile Home Commission appointed by the Governor with administration by the Arkansas Department of Health.

The program consists of adoption of the National Standards for Manufacturing Mobile Homes, Inspection of Mobile Home Manufacturing Plants in the State and Manufacturing Plants located out of State shipping mobile homes into Arkansas. A seal of acceptance, indicating that all mobile homes manufactured for use in Arkansas meet all laws and regulations, is required to be attached to each mobile home sold in the State.

The law covers only the manufacture of the mobile home and does not provide for proper installation. Investigations of hundreds of mobile homes indicated that the installation defects were a major problem.

The General Assembly passed Act 580 of 1975 amending the original Mobile Home Standards Law to include certification of manufacturers, dealers, salesmen and anchoring of mobile homes.

The Mobile Home Standards Program is administered through the Bureau of Public Health Engineering, Division of Building Safety.

Since the Mobile Home Program began, over 100 percent improvement has been made in mobile home manufacturing. In the past 18 months, out of 8,750 mobile home units bearing the Arkansas Seal of Acceptance, only 31 complaints have been received, which is less than 1/4 of 1%. All 31 complaints were minor and all were corrected.

Arkansas has just provided for a Mobile Home

Commission Trust Fund to assure that the manufacturer, dealer and installer will correct any deficiencies under the required standard or warranty. Should said manufacturer or dealer fail to make corrections, the commission, after a hearing, may use his trust fund to make needed corrections.

Each manufacturer and dealer pay an initial sum into the trust fund, or depository account, and continue to pay for each mobile home sold in Arkansas until the manufacturer's depository account reaches \$2,500.00. Payment into the depository account then ceases. The fund cannot be withdrawn until two years after the manufacturer has ceased to do business.

Dealers pay into a depository account the same as manufacturers. However, their principal sum is \$10,000.00 and they may withdraw their account one year after ceasing to do business in Arkansas.

Arkansas is the first State to establish a trust fund depository account. This was done due to the extreme difficulty and cost of obtaining a bond that would protect the consumer even though the manufacturer or dealer ceased to do business or entered into bankruptcy.



ANSWER—Electrocardiogram of the Month

Complete atrioventricular dissociation. Atrial rate: 72/min. Ventricular rate: 43/min.

Q waves and ST segment elevation present in III & AVF indicating acute inferior myocardial infarction. Narrow QRS complex indicates bundle pacemaker, therefore site of block is probably at the atrioventricular node.

*Division of Building Safety, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.



EDITORIAL

Thrombophlebitis

Alfred Kahn, Jr., M.D.

The current problem of thrombophlebitis is not so much the treatment which is adequate although not good—but its prevention and early detection. It is an overwhelming disaster for a seemingly well person to go to a hospital for an elective operation and die on the day of discharge from a pulmonary embolus.

Early detection of thrombophlebitis depends on a high index of suspicion. An unexplained fever, slight discomfort in the calf, an unexpected dry cough may be the harbinger of thrombophlebitis. The dilemma is that often confirmatory evidence is lacking. If one keys his diagnostic studies to different levels of certainty as speculative presumptive and established—then he had better treat thrombophlebitis when it is at the speculative level rather than to wait for a more conclusive diagnosis—or his patient may be dead. Not available here are some laboratory aids in establishing diagnoses as radioactive studies to determine the presence of a clot or reliable chemical studies for the by-products of massive coagulation. Whether these newer studies would advance the time of treatment is dubious anyway if one treats at the first suspicion of thrombophlebitis. What is really needed is a reliable means of detecting the thrombotic prone person and/or the presence of incipient thrombophlebitis; we have no such tests available.

About the best that the medical profession has to offer is treatment aimed at the prevention of thrombophlebitis. Even here success is not guaranteed but some progress has been made. Elastic binding of the legs has been tried and with some success as has passive motion of legs, deviation of legs, etc. A more modern version of the compression technique has been advocated by Clark, MacGregor, Prescott and Ruckley who used intermittent pneumatic compression of the calf

(Lancet, Volume II, Page 5, July 6, 1974). The authors used the device on 36 patients. No thrombi as detected by I^{125} -fibrinogen scanning were found in the leg on which the intermittent pneumatic compression was used; 7 thrombi were found in the control leg. The authors recommend bilateral intermittent pneumatic compression for the operative and immediate postoperative days. This device would also seem to be worthwhile in selected medical cases.

Another technique of avoiding deep venous thrombosis in postoperative patients is discussed by A. E. Carter and R. Eban (British Medical Journal, Volume II, Page 94, July 13, 1974). They have presented a series of 204 cases in which 107 were given hydroxy chloroquine and in which 97 served as controls. This medication was given as follows: 1200 mg. were given preceding surgery and 800 mg. per day were given after surgery for the duration of the hospitalization. The diagnosis of deep venous thrombosis was made by scanning the legs with radioactive I^{125} fibrinogen daily after a loading dose; if the count over the legs did not fall daily, a thrombosis was suspected and a phlebogram was performed. They found 1 case of deep vein thrombosis in 66 cases of men treated with hydroxy chloroquine and 9 cases in 58 control men; in women, there were 4 cases in 41 treated patients and 8 cases in the controls. This hydroxy chloroquine seems to offer some protection from deep vein thrombophlebitis.

A group of Edinburgh Hospitals had a co-operative trial concerning the prevention of thrombosis; 8 surgical units participated (Lancet, Volume II, Page 119, July 20, 1974). The thrust of the research was to determine if small doses of heparin were more successful than intravenous Dextran in preventing deep vein thrombosis.

The use of intravenous Dextran produces an increase in circulating blood volume and other authors have stated that if given in large enough doses early enough it is effective in reducing the incidence of thrombophlebitis. Dextran was used in this co-operative program in the following manner: 500 cc was given in the operating room and 500 cc was given on the first and second postoperative day. 130 patients received Dextran and these cases were compared to a control group of 128. Deep venous thrombosis was diagnosed

by scanning with I^{125} fibrinogen. The results indicated 37% of the control cases developed thrombosis whereas only 25% of the Dextran treated cases had thrombosis. Heparin was used subcutaneously; 2500 units were given preoperatively and then 5000 units twice daily until the seventh day. Only 12% of the Heparin cases developed thrombosis.

The problem of thrombophlebitis is not solved but it is obvious some progress has been made.



MEDICINE IN THE



THE MONTH IN WASHINGTON

The public interest would be better served if the nation examined the goals of a national health insurance program within the context of the existing health care system and directed its energies toward the perfection of that system, the American Medical Association said today in testimony before a subcommittee of the House Interstate and Foreign Commerce Committee.

"It is unnecessary to gamble on a whole new medical health system in order to meet the health care needs of all Americans," AMA president Max H. Parrott told the Public Health and Environment Subcommittee.

Pointing to the large problems involved in creating a national health insurance program, Dr. Parrott, a Portland, Ore., practitioner, said that public attitudes toward it are changing steadily.

"These problems have been brought into better focus as a result of evidence of the effects of governmentally administered and controlled programs both here and abroad.

"Our national priorities have also shifted because of the effects of the changing economy, and the devastating effects of inflation on all segments of our society.

"Significant changes have taken place in our health system through increased manpower programs, increased facilities construction, increased levels of private health insurance coverage, and a variety of other programs. There is fuller realization and acknowledgment that this country's health system—under attack by many in the course of the NHI debate—is indeed superior to any other in the world," Dr. Parrott said.

Dr. Parrott told the subcommittee members of the medical profession's national health insurance plan (H.R. 6222) which builds on the structure of the present system of employer-employee group health insurance plans, mandating each employer to provide comprehensive and catastrophic benefit coverage with the employer picking up at least 65 percent of the cost.

Employees, according to the AMA spokesmen, would not be compelled to participate. The self-employed as well as the non-employed could purchase qualified private health insurance, through pools if needed, at a cost not more than 125 percent of the cost of group plans. And, after a certain level of co-insurance is reached, depending upon income, the insurance would cover all remaining costs as a complete protection against catastrophic costs.

Dr. Parrott pointed out that in pressing for the adoption of any particular NHI proposal, sincerity must not be confused with objectivity—"We cannot afford to have a program of such importance fail.

"We must avoid the mistake inherent in those proposals which would lock medicine into a rigid, monolithic, no-choice bureaucratic system. Such a creation would be impossible to reverse. It would be an undertaking full of promise but empty of fulfillment. Establishment of cost control through fixed budgets including arbitrary fee schedules would result in curtailment of care and discourage participation by providers.

"A look at the current trouble of the British health care system impels a close re-examination of the alleged need for such drastic action," Dr. Parrott said.

* * * *

The Senate Finance Committee also approved with few changes Medicare Amendments adopted earlier by the House. The major one assures that no prevailing Medicare fee for this fiscal year is less than for the previous fiscal year. An unintended effect of the new law tying physicians Medicare reimbursement in with a cost-of-living-type index was to roll back some fees. HEW didn't want to do anything about it, but the House at the urging of the AMA and other groups, agreed to prevent the rollback.

The Senate Committee added language to the House provision to indicate that in calculating the controversial fee index HEW should include to the extent feasible "factors related to any increases in costs of malpractice insurance and that index calculations should be prepared on a regional rather than a national basis."

The other Medicare changes include:

- **A one-year extension of authority to grant waivers of nursing staff requirements in rural areas where nurses are in short supply. The House had approved a three-year extension.
- **Repeal of a present provision which would make the Federal Employees Health Program rather than Medicare the primary payer of benefits for older or retired U. S. workers. The amendment specifies that Medicare be the primary payer for people eligible for both programs.

* * * *

Physicians in some larger states containing more than one Professional Standards Review Organization area may have a chance to choose a single, statewide plan under legislation approved by the Senate Finance Committee. Texas, Louisiana and possibly some other states would qualify, the Health, Education and Welfare Department said.

The amendment by Sen. Lloyd Bensten (D-Texas) applies to states that have been divided into PSRO areas, and where no conditional PSROs have yet been designated. The HEW Department would poll the physicians in the areas to determine their preference for a local or a state-wide PSRO. If a majority of physicians in each area approve the state-wide plan, the verdict would have to be accepted by HEW.

The Texas Medical Association and other state societies, as well as the AMA have fought for the rights of larger states to become single PSRO areas, but the HEW Department turned down the appeals on grounds PSROs were intended to be primarily local. As a result, large population states were divided into several PSRO areas.

* * * *

The Medical Liability Commission has urged Congress not to employ National Health Insurance as a vehicle for forcing a federal solution to the professional liability problem.

Gale Richardson, M.D., a member of the Liability Commission, told the House Ways and Means Subcommittee on Health that the causes of the liability crisis "vary in kind and in relative emphasis from state to state. This is one reason that the remedies should be sought within the individual states."

"We are particularly opposed to linking of this problem in any way with national health insurance," said Dr. Richardson.

The Commission is composed of 20 national medical specialty and institutional provider groups, including the AMA, the American Hospital Association and major specialty associations.

Dr. Richardson noted that there have been suggestions that under NHI the government pay the liability premium for physicians who accept assignment. He cited speculation that physicians may be willing to accept government control of medicine in return for having the burden of liability premiums lifted.

"We do not believe that limiting the rights of patients or the rights of any class of citizens is a

proper approach to the solution of this problem—nor do we believe that granting by Congress of immunity to physicians or any other group at any time is a proper approach,” Dr. Richardson declared.

Dr. Richardson said “both the immediate and longer range remedies can be more responsive to the needs of all concerned if approached at the most practical local level—state legislatures when legislative remedies are required.”

Dr. Richardson said the liability problem should be corrected by innovative changes which should be evolutionary and not revolutionary.

“We strongly oppose those who believe that the answer to the weaknesses in our system is a controlled economy and a government which is more important than those it governs,” he asserted.

* * * * *

MALPRACTICE

The following letter is published as a matter of interest to the membership.

20 January 1976

The Honorable David Pryor
Governor of Arkansas
State Capital Building
Little Rock, Arkansas

Dear David:

I enjoyed talking to you on the phone yesterday and hope to see you in the near future when we can talk about old times and more pleasant subjects. Now, however, I would like to present again the figures which we talked about on the phone yesterday. First, in regards to the Boone County Hospital in Harrison: In June of 1974 for 100/300 thousand coverage plus the one million umbrella, the Boone County Hospital premium was \$6,695. In June of 1975 for 100/300 thousand coverage only, no umbrella, our premium was \$21,914. In August the administration discussed with St. Paul the possibility of obtaining the one million dollar umbrella and they wanted a premium of \$29,750. We thought this price was high and then in September they informed us they did not desire to sell Boone County Hospital a one million dollar umbrella.

In regards to Rogers Memorial Hospital, Rogers, Arkansas: In 1974 their premium for 100/300 thousand coverage plus the one million dollar umbrella was \$36,000 and in 1975 their

premium is \$274,000. As I understand it, Rogers Memorial of course did not have this sort of cash and they are paying their premium on a monthly basis.

St. Bernard's Hospital in Jonesboro, Arkansas: In 1974 for 100/300 thousand plus the one million dollar umbrella the premium was \$36,000. In 1975 the premium asked was \$213,000. They were unable to pay this premium and they are now claiming good samaritan benevolence and are not insured.

You are of course familiar with the problems at the Arkansas Baptist Hospital as was outlined in the paper and as I understand it, they are now going to pay \$478,000 for \$500,000 coverage.

The physicians here in Harrison were quite surprised at Ark Monroe's statement that there is no malpractice problem in Arkansas. I somewhat tend to agree with Mr. Monroe's statement in that I don't really feel that there is a malpractice problem; however, there is a problem with what we feel are excess charges by the insurance companies. You are probably aware that most of the doctors' premiums in Arkansas did not go up this year on 100/300 thousand coverage but the one million dollar umbrella did go up significantly. St. Paul has said that they will attempt to make the coverage cheap this year and that we can expect a premium increase of approximately 33 percent a year for the next three years. This will then level out to increase at an unknown rate in the future. I am sure you are also aware that our insurance coverage has now changed from an occurrence type policy to a claims made type policy. For coverage after one quits practice you will have to purchase malpractice insurance for three years after the cessation of your practice to remain covered for the years during your practice. St. Paul will not say what amount you will have to pay for this coverage after one either dies or quits practice.

As I stated before, I don't really think there is a malpractice problem in Arkansas. According to the figures which Ark Monroe finally obtained from St. Paul, there were only 215 claims paid from 1972 through 1974. The average amount on each claim was \$6,000 which, if my arithmetic is correct, would amount to something around one and one-half million dollars. If we then say that the 1,600 practicing physicians in Arkansas are paying an average amount of

\$2,000 this amounts to around three million. It would therefore appear that the insurance companies are doing fairly well in Arkansas at the present rates. As can be seen from the charges now levied on the hospitals in 1975, I would anticipate that within the next two to three years the charges to physicians will increase in a like manner. The hospitals of course are going to have to increase their charges for room rates and services to pay these premiums. We all realize that ultimately these rising costs will be passed on to the patient, escalating the already high cost of medical care.

It would seem to me that it is readily apparent that for the protection of the patient and the physician, it would behove us as citizens of Arkansas to make sure that we are getting our dollar's worth for malpractice coverage. With the few claims paid in the three-year period from 1972 through 1974 one wonders if we are not having to pay premiums to offset the insurance companies' losses in the stock market and their losses in malpractice claims in states such as California, Maryland, and Indiana which are notably high risk states.

David, there are many of us in Arkansas who are quite interested in this problem, not only because we feel it is unfair to us as physicians, but realizing that these costs are being levied on us by the insurance companies and will ultimately be passed on to the patient, increasing the cost of medical care without increasing the quality. I would hope to have your support in finding some solution to this matter.

Sincerely,

Thomas E. Bell, M.D.
Harrison, Arkansas

* * * * *

COUNCIL MINUTES OF THE ARKANSAS MEDICAL SOCIETY

The Council of the Arkansas Medical Society met at 12:00 noon on Sunday, February 1, 1976, in the Camelot Inn, Little Rock. Members of the Council present were: Long, Townsend, Duzan, Crow, Fairley, Gray, J. Bell, P. Bell, Irwin, Jameson, Harris, Andrews, Clark, Orr, Kolb, Henry, Kirby, Kutait, Watson, Ellis, and Wilkins. Others present included Edgar Easley, George Mitchell, Robert Benafield, Purcell

Smith, Ken Lilly, Mr. Warren, Mr. Schaefer, Miss Richmond and Mr. McIntosh.

Invocation was by C. R. Ellis.

The Council observed a moment of silence in memory of C. Lewis Hyatt, a past president, and Winston Shorey, a former dean of the Medical School.

Chairman Long expressed the Society's appreciation to Dr. Shuffield and Mr. Warren in getting the Legislature to recommend the malpractice amendment for a vote by the people in November. Dr. Long and Mr. Schaefer also expressed thanks to the members of the Society and the Auxiliary for their help in legislative contacts. President Townsend stressed the need for members of the Society to give Dr. Shuffield more support in his legislative efforts.

The Council transacted business as follows:

1. Voted, by motion of Kolb, to support a resolution by the Medical Society of the State of New York opposing the use of the Social Security number as a universal numbering identifier.
2. Upon the motion of Harris, voted to underwrite the Prayer Breakfast at the 1976 Annual Session in an amount up to \$300 if receipts are not sufficient to cover costs.
3. George Mitchell presented a proposed new approach to making Blue Shield payments. Under the plan, the physicians in the State would receive a Procedure Code Manual with relative values assigned to each procedure. On an annual basis, Blue Shield would develop a dollar conversion for each field of practice on a statewide basis. Blue Shield would modify the existing participating contracts to illustrate such a "fee schedule" arrangement and would incorporate an updating methodology. Upon the motion of Orr, the Council voted to approve the concept of the proposal as presented by Dr. Mitchell. If the proposal is approved by the Board of Trustees of Blue Cross-Blue Shield, it will then be presented to the House of Delegates in April for approval of that group.
4. The Council considered HR 10641 and HR 11324, identical bills introduced by Congressmen Hammerschmidt, Thornton, and Alex-

ander. Upon the motion of Orr, the Council voted to approve the principle of the proposed legislation and to request clarification from Congressman Hammerschmidt on the intent of some provisions of the bill. It was generally agreed that Congressman Hammerschmidt or one of his legislative aides would be asked to meet with the Council to discuss HR 106-II.

5. Robert Watson, President of the Medical Education Foundation for Arkansas, reported to the Council on the activities of MEFFA. He advised that MEFFA now has \$68,739 in assets with an annual interest income of over \$4,000. He reported that the MEFFA Board favors retention of the principal and is seeking recommendations on the application of the \$4,000-\$5,000 available annually from interest income. The Council voted to accept Dr. Watson's report with an expression of thanks for the Board's handling of the MEFFA funds and approval and endorsement of the plan presented.
6. The Council voted, upon motion of T. E. Townsend, to write the physicians selected for Board positions on the four Health Systems Agencies thanking them for accepting the appointment and assuring them of Society support in their efforts. For those physicians representing the Medical Society, it was suggested that they be asked to advise the Society if they should become unable to participate fully in the health planning activities.
7. Chairman Long reviewed the status of the various Council committees and suggested re-evaluation. Upon the motion of Orr, the Council authorized the Chairman to take action to up-date the Council committees and requested that he report back to the Council.
8. The Council selected John P. Burge of Lake Village as a nominee for the Sixth Congressional District position on the State Board of Health. The names of Dr. Burge, Robert F. McCrary of Hot Springs and Robert H. Atkinson of Hot Springs will be submitted to the Governor for the position held by C. Lewis Hyatt prior to his death.
9. T. E. Townsend of Pine Bluff was selected by the Council as a nominee for a position on the Council on Medical Service of the American Medical Association.

The Council, in Executive Session, took the following actions:

1. Upon the motion of Orr, the Council approved the Society budget for 1976 as presented by Kenneth R. Duzan for the Budget Committee.
2. Mr. Schaefer explained recommendations from a consultant on desired changes in the Arkansas Medical Society Employees Pension Plan. Upon the motion of Irwin, the Council voted to discontinue the 1% employee contribution under the Pension Plan and to refund contributions made to date by participating employees.

The Council adjourned at 2:25 p.m.

APPROVED: C. C. Long, M.D.

Chairman of the Council



PROCEEDINGS OF SOCIETIES

The Fifth Councilor District of the Arkansas Medical Society met on January 21 at the El Dorado Country Club, El Dorado, Arkansas.

New officers were elected for the year 1976. President: Dr. James Guthrie, Camden; Vice President: Dr. George P. Wynne, Warren; Secretary: Dr. Charles Weber, Magnolia; Representative to the Arkansas Medical Council: Dr. Jack Jameson, Camden.

The members heard a report of the Council activities from Dr. John Henry Moore. He spoke of the malpractice problem that the people of Arkansas must solve. He encouraged the physician to give the public the information needed to obtain their favorable support when this issue is voted on in the general election.

Guest speaker was Dr. Dola Thompson of the Anesthesia Department of the University of Arkansas College of Medicine.

Dr. Jim Guthrie, president-elect, spoke of the

need for the physician to get involved in the Health Service Agencies. This is important work that is being done and it needs the physicians

of the State to become members of the various boards that govern these service agencies.

Total attendance was 72.



THINGS TO COME

**THIRD ANNUAL
ASPEN MUSHROOM CONFERENCE
HOTEL JEROME
ASPEN, COLORADO
AUGUST 8-13, 1976**

The Third Annual Aspen Mushroom Conference is designed for physicians, amateur mycologists and scientists interested in the identification and toxic properties of mushrooms. The Conference is sponsored by the Colorado Mountain College, Glenwood Springs and the Beth Israel Hospital, Denver, Colorado.

An outstanding group of Colorado and visiting mycologists and physicians will serve as a faculty for the Conference. Dr. Alexander H. Smith, the senior faculty member, is the author of a *Field Guide to Western Mushrooms* and is the Professor of Botany at the University of Michigan.

Dr. Rolf Singer, Professor of Botany, Field Museum, Chicago, and author of *Agaricales in Modern Taxonomy* will serve as distinguished visiting professor at the 1976 Aspen Mushroom Conference. He will conduct a five session course on mushroom microscopy for a limited number of advanced students.

The program will be structured for the beginner as well as the advanced student by offering independent teaching sessions for each group. Didactic sessions and refresher courses on mushroom identification will be held in the early mornings and later afternoons at the novice and advanced student levels. Courses on *advances in the diagnosis and treatment of mushroom poisoning* and on *hallucinogenic mushrooms* including taxonomic, chemical and psychological aspects will be offered to physicians and others interested in these subjects.

Generally, in the late summer, the Aspen mountains are productive of a wide variety of mushrooms. Experienced leaders will conduct daily forays into the surrounding mountains to collect edible and poisonous species and study their field characteristics.

Adequate time will be allowed to participate in leisure mountain activities including the renowned Aspen Music Festival.

For further information contact: Aspen Mushroom Conference, 1818 Gaylord Street, Denver, Colorado 80206. Phone (303) 320-5333.

* * * *

Interspecialty Postgraduate Seminar

An interspecialty postgraduate seminar regarding the spine will be presented April 12-14, 1976, in Phoenix, Arizona. Guest faculty include noted orthopedic surgeons and radiologists. The course is approved for fifteen hours of Category I credit by the American Medical Association. Tuition is \$110. For further information write to: Austin R. Sandrock, M.D., Program Director, Department of Radiology, Maricopa County General Hospital, 2601 East Roosevelt, Phoenix, Arizona 85008.

Arkansas Chapter, American College of Surgeons, to Meet

The Arkansas Chapter, American College of Surgeons, will hold its Hot Springs meeting at the Velda Rose on Friday and Saturday, March 19th and 20th. The meeting will be conducted by Dr. Schwartz from the Department of Surgery at the University of Rochester, Rochester, New York. Dr. Schwartz will also deliver the Masauki Hara Lecture on March 18th at the Medical Center in Little Rock.

American Board of Family Practice Certification Examination Slated

The American Board of Family Practice certification examination will be given October 30-31, 1976. The two-day written examination will be held in seven cities geographically distributed throughout the United States. Infor-

mation regarding the examination may be obtained by writing: Nicholas J. Pisacano, M.D., Executive Director and Secretary, American Board of Family Practice, Inc., University of Kentucky Medical Center, Lexington, Kentucky 40506.

It is necessary for each physician desiring to take the examination to file a completed application with the Board office. Deadline for receipt of applications is June 15, 1976.

Postgraduate Symposium Announced

The Yale School of Medicine has announced a postgraduate symposium, "Portal Systemic Encephalopathy in Hepatic Coma: Pathogenesis Assessment and New Forms of Therapy" scheduled for November 11-13, 1976, at the Yale New Haven Medical Center, New Haven, Connecticut. For further information contact Harold O. Conn, M.D., Yale University School of Medicine, Department of Internal Medicine, 333 Cedar Street, New Haven, Connecticut 06510.

Cardiovascular Seminar

A Cardiovascular Stress Testing Seminar will be held June 10-13, 1976, at the Convention Center in Little Rock, Arkansas. The seminar is being sponsored by the Division of Cardiology, University of Arkansas for Medical Sciences and by the Council of Clinical Cardiology. This Continuing Medical Education offering meets the criteria for 17 hours of credit in Category I for the Physician's Recognition Award of the AMA. Enrollment is limited. For more details contact John E. Douglas, M.D., Associate Professor, Department of Medicine, University of Arkansas for Health Sciences, 4301 West Markham, Little Rock, Arkansas 72201.

Oklahoma Medical Summit

The Oklahoma Medical Summit will be held May 6-9, 1976, at the Lincoln Plaza Convention Center in Oklahoma City. This is a joint venture of the Oklahoma State Medical Association, the Oklahoma Academy of Family Physicians, the Oklahoma City Clinical Society, and over twenty other health related organizations. Scientific and general interest programs have been

arranged. If you would like additional information, contact Gary Strebel, M.D., Publicity Chairman, Oklahoma Medical Summit '76, 601 Northwest Expressway, Oklahoma City, Oklahoma 73118.

Four Humanities Seminars to Be Held

The National Endowment for the Humanities will again support a program of humanities seminars for physicians in 1976. The seminars will bring medical practitioners together with distinguished humanists from the fields of history, religion, sociology, and philosophy for a month of full-time study devoted to such issues as ethical conflicts, the purpose and limits of medical professions and their relations to the community.

The seminar dates and places are June 1-30, University of Pennsylvania in Philadelphia; June 28-July 23, Indiana University in Bloomington; August 9-September 3, The Ohio State University of Columbus; September 13-October 8, University of Texas Medical Branch at Galveston.

For further information about applications for these seminars and other details contact:

Professor John C. Burnham
Department of History
The Ohio State University
230 West 17th Avenue
Columbus, Ohio 43210

Professor Renee C. Fox, Chairman
Department of Sociology
128 McNeil Building CR
University of Pennsylvania
Philadelphia, Pennsylvania 19174

Professor William F. May, Chairman
Department of Religious Studies
Sycamore Hall 230
Indiana University
Bloomington, Indiana 47401

Professor H. Tristram Engelhardt, Jr.
Institute for the Medical Humanities
University of Texas Medical Branch
Galveston, Texas 77550





PERSONAL AND NEWS ITEMS

Doctor Locates

Dr. James W. Freeland of Star City has announced that his son-in-law, Dr. Shelley Griffin, has joined the Freeland Medical Clinic for the practice of general medicine.

Physicians Receive Award

Members of the Arkansas Medical Society who have received the 1974 American Medical Association's Physician Recognition Award for Continuing Medical Education are Drs. James R. Bearden, Fay W. Boozman, John C. Holder, John W. Joyce, John W. Lane, Joseph W. Matthews, Burton A. Moore, Sanford A. Rubin, Wilfred J. Schwarz, Walter G. Selakovich, Jyi-Ming Tseng, Ralph S. Wilson, all of Little Rock; John M. Boyce of Springdale; Michael L. Bullington of DeQueen; Charles H. Chalfant of Booneville; Robert A. Etherington and Hunter M. Steadman, both of Eureka Springs; Roy G. Girkin, William T. Huskison, Robert H. Janes, Albert S. Koenig, all of Fort Smith; Ernest H. Harper of North Little Rock; Jimmie J. Magie of Conway; E. Jane Mauch of Russellville; Carl E. Northcutt of Stuttgart; Earl Parsous, John R. Sellars, Hoy B. Speer, Marolyn Speer, all of Arkadelphia; Hubert C. Peterson of Mountain Home; Clarence M. Rittelmeyer and George V. Roberson of Pine Bluff; Guy U. Robinson of Dumas; Charles A. Taylor of Batesville; William D. White of Searcy; and Eugene H. Wicker of Texarkana.

Dr. Turley Relocates

Dr. Jan T. Turley, who formerly practiced urology in Fayetteville, has moved his practice to Rogers. Dr. Turley's office is located at 601 West Walnut in Rogers.

Physician Joins Millard-Henry Clinic

Dr. W. Robert Thurlby has joined the Millard-Henry Clinic in Russellville as an internist. Dr. Thurlby has trained in non-invasive cardiology and echocardiography. He also does stress testing to determine heart diseases not detected on routine cardiograms.

1975 Mobilian of the Year

Dr. Phillip A. Snodgrass of Mobile, Alabama, son of Dr. W. A. Snodgrass, a past president of

the Society, has been named 1975 Mobilian of the Year. Dr. Snodgrass pioneered the development of Emergency Medical Services in South Alabama and was instrumental in the creation of a fire-rescue system in the Mobile area. He is a general surgeon and trauma specialist and also a volunteer fire and police surgeon.

Physicians in Scouting

Dr. Louis R. McFarland of Hot Springs was awarded the Silver Beaver Award by the Ouachita Area Council of the Boy Scouts of America. This is the highest award of the local council. The award is granted by the National Council upon the nomination of a volunteer committee of the local council. This award is made for noteworthy service to boyhood by registered Scouters within the territory under the jurisdiction of the local council.

Dr. Charles Clark of Arkadelphia was installed as a vice president of the Ouachita Area Council of the Boy Scouts of America.



OBITUARY

Dr. Norman N. Fein

Dr. Norman N. Fein, an ear, nose and throat specialist in Little Rock, died January 1, 1976, at the age of seventy-two. Dr. Fein was born August 27, 1903.

Dr. Fein was graduated from the University of Wisconsin and completed his internship at the Milwaukee County Hospital and his residency at John Hopkins University Hospital at Baltimore.

He was a Navy veteran, a member of the Pu-

laski County Medical Society, the Arkansas Medical Society, the AMA, American Board of Otolaryngology and the Temple B'nai Israel. He was associated with the Missouri Pacific Hospital, the State Hospital, the Veterans Hospital in Little Rock, St. Vincent Infirmary and the Baptist Medical Center. He was also a faculty member of the University of Arkansas College of Medicine.

He is survived by his widow, Mrs. Clare Grabin Fein, a son and a daughter.

Dr. C. Lewis Hyatt

Dr. C. Lewis Hyatt died January 18, 1976, at the age of sixty. He was born June 29, 1915. Dr. Hyatt had practiced general medicine in Monticello since 1945.

Dr. Hyatt was graduated from the University of Arkansas Medical School in 1938 and interned at Baptist Hospital at Little Rock. After his internship, he was associated with Dr. D. T. Hyatt in Little Rock and was on the faculty of the University of Arkansas Medical School as an instructor in medicine. After World War II, Dr. Hyatt went to Monticello and was associated with Dr. J. P. Price in the practice of general medicine and surgery and later was associated with his brother, Dr. R. F. Hyatt, Jr.

Dr. Hyatt was a past president of the Arkansas Medical Society, the Arkansas Academy of General Practice, and the State Board of Health. He was a member of the Drew County Medical Society, the Arkansas Medical Society, the AMA, and was a local consultant for the Arkansas Rehabilitation Service. Dr. Hyatt was also a fellow of the American College of Chest Physicians, the American Society of Clinical Hypnosis and the American Geriatrics Society, and was a diplomate of the American Board of Family Practice and the National Board of Medical Examiners.

Dr. Hyatt is survived by his widow, Mrs. Wanda White Hyatt; a son, Dr. C. L. Hyatt, Jr. of Little Rock; and a daughter, Mrs. Charlotte McGarr of Tennessee.

Dr. Winston K. Shorey

Dr. Winston K. Shorey, a former dean of the University of Arkansas School of Medicine, died January 11, 1976, at the age of fifty-six. He was born September 14, 1919.

Dr. Shorey was dean of the School of Medicine for thirteen years until his resignation in 1973. After his resignation, he continued as professor of medicine and head of the new Area Health Education Centers program. He also was associate dean of continuing education at the School of Medicine.

Dr. Shorey was graduated from the University of Pennsylvania Medical School in 1943. After serving in World War II, he began a residency at the University of Pennsylvania Medical School in internal medicine.

Dr. Shorey was a fellow in the American College of Physicians and was a member of the New York Academy of Sciences, the Association of American Medical Colleges, the Pulaski County Medical Society, the Arkansas Medical Society, and the AMA. Dr. Shorey also served on the Advisory Group for Arkansas Comprehensive State Planning and the Governor's Committee on Aid to the Handicapped and as a director of the Visiting Nurses Association of Pulaski County.

Dr. Shorey is survived by his widow, Dr. Jeanette McConnell Shorey, and a daughter, Miss Jan Shorey of Boston.



RESOLUTIONS



Dr. Winston K. Shorey

WHEREAS, due to the recent death of Winston K. Shorey, M.D., the Pulaski County Medical Society has lost one of its most valued members; and

WHEREAS, Dr. Shorey had devoted countless hours to the affairs of the Society since becoming a member fifteen years ago, attaining the honor of being the first medical school dean to hold the office of county medical society president in Arkansas and perhaps the nation; and

WHEREAS, he had given generously of his

RESOLUTIONS

time in serving the Society as a member of and chairman of a number of its most important committees; and

WHEREAS, Dr. Shorey had served for a number of years as a Delegate to the Arkansas Medical Society, always with a sense of duty and obligation to organized medicine;

BE IT THEREFORE RESOLVED: THAT, this resolution be made a part of the permanent archives of this Society; and

THAT, a copy of this resolution be forwarded to the Journal of the Arkansas Medical Society for publication; and

THAT, a copy of this resolution be given to Dr. Shorey's family as an expression of our deepest sympathy.

By Order of the Memorials Committee
T. Duel Brown, M.D., Chairman
Robert Watson, M.D.
Henry Hollenberg, M.D.
Adopted January 21, 1976

* * * * *

Dr. Samuel V. Richmond

WHEREAS, the recent death of our fellow member, Samuel V. Richmond, M.D., is noted with sincere sorrow; and

WHEREAS, for twenty-eight years, Dr. Richmond had been a loyal member of the Pulaski County Medical Society; and

WHEREAS, his devotion to the practice of medicine and to the care of his patients is worthy of the highest praise;

BE IT THEREFORE RESOLVED: THAT, this resolution be adopted and made a part of the permanent records of this Society; and

THAT, a copy of this resolution be made available to the Journal of the Arkansas Medical Society for publication; and

THAT, a copy of this resolution be forwarded to Dr. Richmond's family as an expression of the heartfelt sympathy by his colleagues.

By Order of the Resolutions Committee
T. Duel Brown, M.D., Chairman
Robert Watson, M.D.
Henry Hollenberg, M.D.
Adopted January 21, 1976

Dr. Norman N. Fein

WHEREAS, the members of the Pulaski Medical Society are grieved by the recent death of their colleague, Norman N. Fein, M.D., and

WHEREAS, Dr. Fein was a valued member of this Society for twenty-eight years, and was held in great respect by his fellow physicians; and

WHEREAS, his contributions to the betterment of the health of the people of this community will long be remembered;

BE IT THEREFORE RESOLVED: THAT, to express our condolences to Dr. Fein's family, this resolution be made a part of the permanent records of this Society; and

THAT, a copy of this resolution be forwarded to the Journal of the Arkansas Medical Society for publication; and

THAT, a copy of this resolution be sent to Dr. Fein's family.

By Order of the Resolutions Committee
T. Duel Brown, M.D., Chairman
Robert Watson, M.D.
Henry Hollenberg, M.D.
Adopted January 21, 1976

* * *

Dr. Hoyt Kirkpatrick

WHEREAS, God, in his infinite mercy has seen fit to call from our midst at an early age, Dr. Hoyt Kirkpatrick, and

WHEREAS, Dr. Kirkpatrick has faithfully served his patients in the community at large throughout his entire medical career, and

WHEREAS, Dr. Kirkpatrick, during his years of practice has reflected the highest ideals of his profession, and

WHEREAS, in his devotion to family, and friends, he exemplified the best in man, and

WHEREAS, The Sebastian County Medical Society mourns his loss

THEREFORE, BE IT RESOLVED, that the Sebastian County Medical Society, in its regular meeting on January 13, 1976, hereby adopts these resolutions and directs that a copy be spread on the minutes of the society and that a copy be furnished the family and that a copy be published in the Journal of the Arkansas Medical Society.

RESOLUTIONS

Dr. George Allen

WHEREAS, God, in his infinite mercy has seen fit to call from our midst at an early age, Dr. George Allen, and

WHEREAS, Dr. Allen has faithfully served his patients in the community at large throughout his entire medical career, and

WHEREAS, Dr. Allen, during his years of practice has reflected the highest ideals of his profession, and

WHEREAS, in his devotion to family, church, and friends, he exemplified the best in man, and

WHEREAS, The Sebastian County Medical Society mourns his loss

THEREFORE, BE IT RESOLVED, that the Sebastian County Medical Society, in its regular meeting on January 13, 1976, hereby adopts these resolutions and directs that a copy be spread on the minutes of the society and that a copy be furnished the family and that a copy be published in the Journal of the Arkansas Medical Society.

* * * * *

Dr. C. Lewis Hyatt

WHEREAS, the members of the State Board

of Health and staff of the Arkansas Health Department note with sincere sorrow the death of their colleague, Dr. C. Lewis Hyatt, and

WHEREAS, he had served the State Board of Health for sixteen years, and his dedication and devotion to its affairs are recognized with grateful appreciation, and

WHEREAS, he also served as President of the State Board of Health exemplifying all that is best in his chosen profession, the practice of medicine

BE IT THEREFORE RESOLVED: THAT we express our sincere sympathy to Dr. Hyatt's family by entering this resolution as a part of the permanent minutes of the State Board of Health, and

THAT a copy of this resolution be forwarded to the Journal of the Arkansas Medical Society for publication, and

THAT a copy of this resolution be forwarded Dr. Hyatt's family.

By Direction of the President of the Board.
Ben N. Saltzman, M.D., and the State Health
Director, Rex Ramsay, M.D.



NEW MEMBERS

Dr. Kent D. McKelvey

Dr. Kent David McKelvey is a new member of the Pulaski County Medical Society. He is a native of Maynard, Arkansas.

Dr. McKelvey attended the University of Ar-

kansas School of Medicine and was graduated in 1967. He completed his internship at the University Hospital in Little Rock and his residency was completed at the City of Memphis Hospital in Memphis, Tennessee.

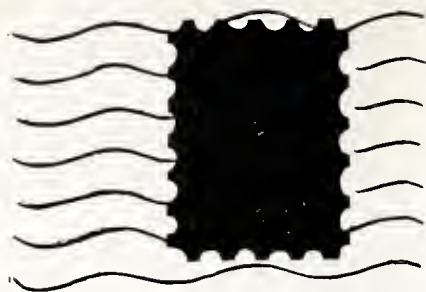
Dr. McKelvey is practicing obstetrics and gynecology at 500 South University in Little Rock.

Dr. George F. Holitik

The Pulaski County Medical Society has accepted Dr. George F. Holitik for membership.

Dr. Holitik completed his pre-medical education at the University of Arkansas in Fayetteville and he was graduated from the University of Arkansas School of Medicine in 1957.

Dr. Holitik is a family practitioner now practicing at 3200 Bryant in Little Rock.



LETTERS TO THE EDITOR

January 26, 1976
Alfred Kahn, Jr., Editor
Journal of the Arkansas Medical Society
1300 West Sixth Street
Little Rock, Arkansas 72201

Dear Dr. Kahn:

In Dr. Saltzman's article "Getting Family Physicians into Rural Communities" in the January 1976 issue of the Journal, there is one correction

which might relieve the apprehension of many Medical College applicants and their families. The mean grade point average (not the *lowest* grade point average, as was printed) for admission in 1974-75 was 3.5 out of a possible 4.0. This means that for every student admitted with straight A's (4.0) there is one admitted with straight B's (3.0).

At least four other things are taken into consideration other than college grades: the scores on the Medical College Aptitude Test, letters of recommendation from premedical faculty advisors and other individuals who have known the candidate over several years, performance on a standard multiphasic personality test, and interviews by our own medical faculty to evaluate individual initiative and integrity, desire to become a physician, attitudes of compassion and commitment to human service, and the like.

Sincerely,

Robert E. Bowling
Assistant Dean for Admissions



CONVENTION SECTION

Program For Annual Meeting

April 25-28, 1976

Arlington Hotel

Hot Springs

Centennial Year

Arkansas Medical Society

CONVENTION OFFICIALS

CHAIRMAN: Asa Crow, M.D., Paragould

CONVENTION COMMITTEE:

Gilbert S. Campbell, M.D., Little Rock

W. T. Dungan, M.D., Little Rock

Robert F. McCrary, M.D., Hot Springs

Frank M. Burton, M.D., Hot Springs

George H. Collier, M.D., Paragould

Charles A. Taylor, M.D., Batesville

Joseph Robinette, M.D., Pine Bluff

G. Thomas Jansen, M.D., Little Rock

DISTRICT HOSTS: Ninth Councilor District

SCIENTIFIC EXHIBITS CHAIRMAN: J. Larry Lawson, M.D., Paragould

GOLF TOURNAMENT CHAIRMAN: Gilbert O. Dean, M.D., Little Rock

MEMORIAL SERVICE CHAIRMAN: G. Allen Robinson, M.D., Chairman

General Information

REGISTRATION

The registration desk will be located in the mezzanine lobby area of the Arlington Hotel and will be open as follows:

Sunday, April 25	8:00 A.M. to 5:00 P.M.
Monday, April 26	8:00 A.M. to 5:00 P.M.
Tuesday, April 27	8:00 A.M. to 5:00 P.M.
Wednesday, April 28	8:00 A.M. to 11:00 A.M.

Registration cards and badges will be prepared in advance for the officers of the State Society and for the county society delegates. Delegates are requested to present credentials in proper form when registering.

All members and visitors are required to register, as admission to all sessions will be by badge only. Bring your 1976 membership card to facilitate registration.

There will be a \$5.00 registration fee for non-member physicians.

Tickets for the Tuesday night banquet may be purchased at the registration desk.

TELEPHONE SERVICE

As a convenience to physicians in attendance at the meeting, arrangements have been made for telephone service at the Society convention registration desk. It is suggested that you give the following information to your office personnel so that you may be contacted in case of an emergency:

Arkansas Medical Society Convention Registration Desk telephone number (direct line) 624-6036.

FREE COFFEE

The Arkansas State Medical Assistants Society will serve coffee in the technical exhibit area (conference room on mezzanine level). Members are urged to visit the medical assistants for a cup of coffee and to learn more about the medical assistants organization and its educational program.

GOLF TOURNAMENT

The annual golf tournament in connection with the convention will be played at Hot Springs Country Club. Entrants may qualify on the day of their choosing, April 25 through 28. There will be a \$5 entry fee (not including greens fee). Scores will be determined by the Calaway System and prizes will be awarded.

COUNCIL RECEPTION

The Council will hold a reception for all members, wives, and guests of the Arkansas Medical Society at 6:30 P.M. on Sunday, April 25, in the Crystal Ballroom of the Arlington Hotel. All members are encouraged to attend and become better acquainted with the officers of the Society.

PRAYER BREAKFAST

The Committee on Medicine and Religion will sponsor a Prayer Breakfast at 7:30 A.M. on Monday, April 26, in the Arlington. Dr. G. Thomas Jansen will serve as master of ceremonies for the breakfast. Members should watch for further information from the committee concerning the breakfast.

MONDAY EVENING PARTY

Arkansas Blue Cross-Blue Shield will host a cocktail party for members of the Society and their wives at 6:30 P.M. on Monday in the Ballroom of the Arlington.

FIFTY YEAR CLUB BREAKFAST

The Society will host a breakfast for members of the Fifty Year Club at 7:30 A.M. on Tuesday, April 27, in the Arlington Hotel. Members of the Fifty Year Club may make reservations for the breakfast at the Society's convention registration desk.

Dr. Henry V. Kirby of Harrison will present a slide show on the Centennial meeting of the Arkansas Medical Society.

Dr. G. Allen Robinson of Harrison is secretary of the Fifty Year Club.

PAST PRESIDENTS' BREAKFAST

The traditional breakfast for former presidents of the Arkansas Medical Society will be held at 7:30 A.M. on Wednesday, April 28, in the Arlington Hotel.

TUESDAY EVENING COCKTAIL PARTY

A cocktail party will precede the Inaugural Banquet on Tuesday evening, beginning at 6:00 P.M. in the North Parlor of the Arlington.

PRESIDENT'S INAUGURAL BANQUET

The President's Inaugural Banquet will begin at 7:00 P.M. on Tuesday, April 27, in the Crystal Ballroom of the Arlington Hotel. T. E. Townsend, M.D., 1975-76 president, will be master of ceremonies.

A. S. Koenig, Jr., M.D., Fort Smith, will be installed as president of the Society for 1976-77.

Memorial Service

A joint Society-Auxiliary Memorial Service will be held at 11:30 A.M. on Tuesday, April 27, in the Ballroom of the Arlington Hotel. G. Allen Robinson, M.D., Harrison, is chairman of the service.

The invocation and benediction will be by the Reverend James R. McLean, St. Luke's Episcopal Church, Hot Springs.

Dr. Robinson will make the Memorial Address.

IN MEMORIAM SOCIETY MEMBERS

Dr. H. H. Atkinson, Fordyce
Dr. George C. Coffey, Hot Springs
Dr. James O. Cooper, Little Rock
Dr. John G. Cullins, Little Rock
Dr. Norman N. Fein, Little Rock
Dr. Merle D. Fox, Searcy
Dr. Robert M. Franklin, Russellville
Dr. C. Lewis Hyatt, Monticello
Dr. Hoyt Kirkpatrick, Fort Smith
Dr. R. R. Kirkpatrick, Texarkana
Dr. Ulysses S. Reed, Pine Bluff

Dr. Samuel V. Richmond, Little Rock
Dr. Louis U. Rushing, Texarkana
Dr. Winston K. Shorey, Little Rock
Dr. Carroll F. Shukers, II, DeQueen
Dr. William K. Smith, Hot Springs
Dr. William J. Stocker, Little Rock
Dr. Fred B. Stone, Stuttgart
Dr. Deane D. Wallace, Little Rock
Dr. A. M. Washburn, Little Rock
Dr. Charles L. Weber, Magnolia

AUXILIARY MEMBERS

Mrs. O. W. Hope, Sheridan
Mrs. C. E. Oates, Little Rock
Mrs. F. O. Rogers, Little Rock

Mrs. R. M. Stormont, Little Rock
Mrs. B. L. Ware, Fort Smith

Historial Exhibits

Plans are being made to have a number of exhibits on the history of Cardiovascular Disease.



Scientific Exhibits

J. Larry Lawson, M.D., Chairman of the Scientific Exhibits, has arranged a number of interesting scientific exhibits. Exhibits will be located in an area adjacent to the scientific lectures. All members are encouraged to visit the exhibits as they are an integral part of the scientific program.

The following exhibits will be on display:

"Hand Surgery"

Gastroenterology Associates, P.A., and The Orthopaedic Clinic, Little Rock

(Title unknown)

John E. Allen, Jr., M.D., Little Rock

"Examination of the Acutely Injured Hand"

George L. Lucas, M.D., Madison, Wisconsin

"Xerography of the Breasts"

Ralph B. Bergeron, M.D., Ochsner Clinic, New Orleans

"The Use of the Electronystagmography in Evaluation of the Dizzy Patient"

Joseph B. Turbeville, Ph.D., Arkansas ENT Clinic, Little Rock

"Sinus Trouble, A Diagnostic Challenge to the Primary Physician"

Robert N. McGrew, M.D., Little Rock

"Rocky Mountain Spotted Fever"

James Patrick, M.D., Altec Program, Fayetteville

"Early Correction of Congenital Heart Defects With Deep Hypothermia and Circulatory Arrest"

Doctors Williams and Lawson, Little Rock

(Title unknown)

Carl Nelson, M.D., Department of Orthopaedics, UACM, Little Rock

(Title unknown)

James Y. Suen, M.D., Department of Ophthalmology, UACM, Little Rock

"Immunology Project"

Kent Westbrook, M.D., Little Rock

(Title unknown)

Raymond V. Biondo, M.D., North Little Rock

(Title unknown)

Sloan Wilson, M.D., Little Rock

"Diagnostic Procedures on Retina Diseases"

Morriss M. Henry, M.D., Fayetteville

"Literature"

Arthritis Foundation, Little Rock



Business Sessions

MEETINGS OF THE COUNCIL

The Council of the Arkansas Medical Society will meet as follows:

Sunday, April 25	10:00 A.M.
Monday, April 26	7:30 A.M.
Tuesday, April 27	7:30 A.M.
Wednesday, April 28	9:00 A.M.
Wednesday, April 28	Immediately following adjournment of the House of Delegates (brief re-organizational meeting and group photograph of new officers)

The voting members of the Council are: the councilors, the president, the first vice president, president-elect, secretary and treasurer. The speaker, vice speaker, and past presidents are members ex-officio without vote.

HOUSE OF DELEGATES

The opening session of the House of Delegates of the Arkansas Medical Society will begin at 1:00 P.M. on Sunday, April 25, in Room "C" of the Conference Center, Arlington Hotel. Speaker of the House Amail Chudy, M.D., will be presiding.

All items of business to be considered by the House must either be printed in the March issue of the Journal or submitted to the headquarters office in writing twenty days prior to the meeting. Any new business proposed during the sessions of the House must have two-thirds vote of attending delegates for introduction.

Items of business will be referred by the Speaker of the House of Delegates to one of three reference committees. Open hearings on those items of business will be held by the reference committees following adjournment of the House. All members of the Society are welcome to attend the meetings of the reference committees and to express views on the various reports, resolutions, etc.

A G E N D A

FIRST MEETING, HOUSE OF DELEGATES

1:00 P.M., Sunday, April 25

1. Call to Order
2. Roll Call of Delegates
3. Report of Credentials Committee
4. Introduction of Guests:
 - Mrs. Norman H. Gardner, President-elect of the American Medical Association Auxiliary
 - Mrs. J. Gordon Dees, President of the Auxiliary to the Southern Medical Association
 - Mrs. Curry B. Bradburn, President, Woman's Auxiliary to the Arkansas Medical Society
 - Mrs. Carl L. Wilson, President-elect, Woman's Auxiliary to the Arkansas Medical Society
5. Address by Richard E. Palmer, M.D., Alexandria, Virginia, President-elect of the American Medical Association

6. Address by T. E. Townsend, M.D., Pine Bluff, President, Arkansas Medical Society
7. Adoption of minutes of the 99th Annual Session as published in the June 1975 issue of the Journal of the Arkansas Medical Society
8. Adoption of minutes of the special meeting of the House of Delegates of the Arkansas Medical Society as published in the February 1976 issue of the Journal of the Arkansas Medical Society
9. Presentation by George K. Mitchell, M.D., President, Arkansas Blue Cross-Blue Shield
10. Report from the Chairman of the Council, C. C. Long, M.D.
11. Reports of Committees
(Reports published in the March issue of the Journal may be amended by committee chairmen. All reports will be referred to the reference committees.)
12. Old Business
13. New Business
(No resolutions were received by the headquarters office by publication date.)
14. Announcements of Vacancies on State Boards
15. Selection of Society Nominating Committee for 1976-77 Society Officers
(Councilor district meetings are held on floor of the House for selection of representative from each district for the Nominating Committee.)
16. Adjournment

A G E N D A

FINAL MEETING, HOUSE OF DELEGATES

10:00 A.M., Wednesday, April 28

1. Call to Order
2. Report of the Nominating Committee
3. Elections
Society Officers:
President-elect
First Vice President
Second Vice President
Third Vice President
Treasurer
Secretary
Speaker of the House of Delegates
Vice Speaker of the House of Delegates
Councilors (one from each of the ten councilor districts)
Councilors whose terms expire are:
 1. John B. Kirkley, M.D., Jonesboro
 2. John E. Bell, M.D., Searcy
 3. L. J. P. Bell, M.D., Helena
 4. John P. Burge, M.D., Lake Village
 5. J. B. Jameson, Jr., M.D., Camden
 6. C. Lynn Harris, M.D., Hope
 7. Robert F. McCrary, M.D., Hot Springs
 8. William S. Orr, Jr., M.D., Little Rock
 9. Henry V. Kirby, M.D., Harrison
 10. Kemal Kutait, M.D., Fort Smith

American Medical Association Delegate and Alternate:

Delegate to the American Medical Association (term of C. C. Long, M.D., Fort Smith, expires December 31, 1976)

Alternate Delegate to the American Medical Association (term of Joe Verser, M.D., Harrisburg, expires December 31, 1976)

Vacancies on the State Boards

State Board of Health:

Term of Durwood Wisdom, M.D., Jonesboro, First Congressional District, expires December 31, 1976

Term of John V. Satterfield, M.D., Little Rock, Fifth Congressional District, expires December 31, 1976

State Medical Board:

Term of George F. Wynne, M.D., Warren, Fourth Congressional District, expires December 31, 1976

4. Reports of Reference Committees:

Committee No. 1: Raymond A. Irwin, Jr., M.D., Chairman

Committee No. 2: W. Payton Kolb, M.D., Chairman

Committee No. 3: Kemal Kutait, M.D., Chairman

5. Supplemental Report of the Council: C. C. Long, M.D., Chairman

6. New Business

7. Adjournment

REFERENCE COMMITTEES

Reference Committees are appointed by the Speaker of the House of Delegates to consider the various reports and resolutions. Reports published in the March issue of the Journal, as well as any reports and resolutions presented at the first meeting of the House on April 25, will be referred by the Speaker to the reference committees. The committees will hold open hearings at 3:30 P.M. on Sunday, April 25, to give all members an opportunity to present their views on the various items of business. Following the open hearings, the reference committees will hold executive sessions for the purpose of preparing recommendations and reports for the House of Delegates. Reports of the Reference Committees will be acted upon by the House at the Wednesday session.

Members of the Reference Committees are:

Reference Committee Number 1:

Raymond A. Irwin, Jr., M.D., Pine Bluff, Chairman

John E. Bell, M.D., Searcy

John B. Kirkley, M.D., Jonesboro

J. B. Jameson, M.D., Camden

Observer: Mr. S. Steven Snow, President of the Junior Class, University of Arkansas College of Medicine

Reference Committee Number 2:

W. Payton Kolb, M.D., Little Rock, Chairman

L. J. Pat Bell, M.D., Helena

C. Lynn Harris, M.D., Hope

Observer: Mr. Lance Monroe, Co-President, Senior Class, University of Arkansas College of Medicine

Reference Committee No. 3:

Kemal Kutait, M.D., Fort Smith, Chairman

John P. Burge, M.D., Lake Village

Allie E. Andrews, M.D., Texarkana

Observer: Mr. Robert W. Bradsher, Co-President, Senior Class, University of Arkansas College of Medicine

STATE BOARD VACANCIES

Arkansas State Medical Board

A vacancy occurs in the Fourth Congressional District position on the Arkansas State Medical Board. Members from the counties in the district are urged to meet immediately following adjournment of the House of Delegates meeting on Sunday to vote for nominees. Nominations should be reported to the convention registration desk (only one nominee required). George F. Wynne, M.D., of Warren is currently serving a term which expires December 31, 1976, and he is eligible for reappointment. Counties in the Fourth Congressional District are: Ashley, Bradley, Calhoun, Clark, Columbia, Hempstead, Howard, Lafayette, Little River, Miller, Montgomery, Nevada, Ouachita, Pike, Polk, Sevier, and Union.

Arkansas State Board of Health

Vacancies occur in the First and Fifth Congressional Districts positions on the Arkansas State Board of Health. Members from the counties in the districts are urged to meet immediately following adjournment of the House of Delegates meeting on Sunday to vote for nominees. Nominations should be reported to the convention registration desk (three required for each position). Members presently serving terms expiring December 31, 1976, are listed below with the counties in the District:

First District —

Durwood Wisdom, M.D., Jonesboro.

Counties in District: Clay, Craighead, Crittenden, Cross, Greene, Lee, Mississippi, Phillips, Poinsett, and St. Francis.

Fifth District —

John V. Satterfield, M.D., Little Rock

Counties in District: Conway, Faulkner, Perry, Pope, Pulaski, and Yell.

ARKANSAS FOUNDATION FOR MEDICAL CARE

The Arkansas Foundation for Medical Care will meet on Wednesday, April 28, immediately following the re-organizational meeting of the Council of the Arkansas Medical Society. The Foundation meeting will be held in Room "C" of the Conference Center of the Arlington Hotel. The Foundation meeting is open to all physicians but only members of the Foundation may vote on items of business.



Distinguished Guest Speakers



JOHN E. DOUGLAS, M.D.
Associate Professor of Medicine
University of Arkansas
College of Medicine
Little Rock



RICHARD E. PALMER, M.D.
President-elect
American Medical Association
Alexandria, Virginia



MELVIN P. JUDKINS, M.D.
Professor and Chairman of Radiology
Loma Linda University
School of Medicine
Loma Linda, California

PICTURE
NOT
AVAILABLE

GILBERT S. CAMPBELL, M.D.
Professor and Chairman
Department of Surgery
University of Arkansas
College of Medicine
Little Rock

PICTURE
NOT
AVAILABLE

JOSEPH V. FISHER, M.D.
Associate Professor
Department of Family Practice
Medical University of South Carolina
Charleston

Distinguished Guest Speakers



G. DOYNE WILLIAMS, M.D.
Associate Professor of Surgery
University of Arkansas College of Medicine
Little Rock



ROBERT S. HEPLER, M.D.
Director, Neuro-Ophthalmology Service
Jules Stein Eye Institute
Los Angeles, California



BERNARD W. THOMPSON, M.D.
Professor of Surgery
University of Arkansas College of Medicine
Little Rock



NOEL W. LAWSON, M.D.
Associate Professor of Anesthesiology
University of Arkansas College of Medicine
Little Rock

PICTURE
NOT
AVAILABLE

O. BREWSTER HARRINGTON, M.D.
Thoracic and Cardiovascular Surgery
Memphis, Tennessee

PICTURE
NOT
AVAILABLE

ABRAHAM RUDOLPH, M.D.
San Francisco, California

Scientific Program

GENERAL SESSION

ARKANSAS MEDICAL SOCIETY

Monday Morning, April 26

Presiding: Donald L. Duncan, M.D., Texarkana, Third Vice President

- 9:00- 9:30 Gilbert S. Campbell, M.D., Professor and Chairman, Department of Surgery, University of Arkansas College of Medicine
"History of the Treatment of Cardiovascular Disease"
- 9:30-10:15 Joseph V. Fisher, M.D., Associate Professor, Department of Family Practice, Medical University of South Carolina, Charleston
"Management of Emotional Factors in Cardiovascular Disease"
- 10:15-10:30 INTERMISSION — Coffee, visit exhibits
- 10:30-11:15 Abraham M. Rudolph, M.D., San Francisco
"Pediatrician's Role in Diagnosing and Treating Cardiovascular Disease"
- 11:15-12:00 Robert S. Hepler, M.D., Director, Neuro-Ophthalmology Service, Jules Stein Eye Institute, Los Angeles
"Ophthalmic Manifestations of Cardiovascular Disease"

Monday Afternoon

Presiding: Mahlon Maris, M.D., Harrison, Second Vice President

- 1:30- 2:15 John E. Douglas, M.D., Associate Professor of Medicine and Physiology and Director of the Cardiac Non-Invasive Laboratory, University of Arkansas Medical Sciences Center
"Internist's Role in Diagnosing and Treating Cardiovascular Disease"
- 2:15- 3:00 Melvin P. Judkins, M.D., Professor and Chairman, Department of Radiology, Director of Cardiovascular Laboratories, Loma Linda University School of Medicine, Loma Linda
"Modern Techniques Useful in the Evaluation of Ischemic Heart Disease"
- 3:00- 3:30 INTERMISSION — Coffee, visit exhibits
- 3:30- 4:15 Noel W. Lawson, M.D., Associate Professor, Department of Anesthesiology, University of Arkansas College of Medicine
"Anesthetic Consideration for Patients with Coronary Artery Disease"
- 4:15- 5:00 G. Doyme Williams, M.D., Associate Professor of Surgery, University of Arkansas College of Medicine
"Recent Important Advances in Cardiovascular Surgery"

Tuesday Morning, April 27

Presiding: Asa Crow, M.D., Paragould, First Vice President

- 9:00- 9:45 Bernard W. Thompson, M.D., Professor of Surgery, University
 of Arkansas College of Medicine
 "The Role of Profundaplasty in Revascularization of the Lower
 Extremity"
- 9:45-10:30 O. Brewster Harrington, M.D., Memphis, Tennessee
 "The Surgical Management of Coronary Artery Occlusive Disease"
- 10:30-11:00 INTERMISSION – Coffee, visit exhibits
- 11:00-11:30 Panel Discussion: Cardiovascular Disease
 Moderator: Gilbert Campbell, M.D.
 Panelists: Melvin P. Judkins, M.D.
 G. Doyne Williams, M.D.
 O. Brewster Harrington, M.D.
 John E. Douglas, M.D.
 Abraham Rudolph, M.D.
 Noel Lawson, M.D.
- 11:30 Memorial Service, Crystal Ballroom, Arlington



Group and Specialty Section Meetings

Monday, April 26

The *Alan Cazort Allergy Society* of Arkansas will hold a luncheon meeting on Monday, April 26th. The dutch-treat luncheon will begin at 12:00 noon in the Arlington. Dr. Michael Fly, Associate Professor of Pediatrics, Allergy and Immunology at Louisiana State University Medical Center in New Orleans, will speak on "Exercise Induced Asthma."

The Allergy Society extends an invitation to all Pediatricians and Family Practitioners to attend.

Tuesday, April 27

The *Ophthalmology Section* of the Arkansas Medical Society will meet at 9:00 A.M. on Tuesday, April 27, in the Arlington Hotel. Robert S. Hepler, M.D., Director of Neuro-Ophthalmology at the Jules Stein Eye Institute, Los Angeles, will be guest speaker. A luncheon will follow the scientific program.

The *Arkansas Chapter of the American College of Radiology* will meet at

9:00 A.M. in the Arlington. The program topic is "Some New Non-Invasive Techniques in Radiology." The schedule for the day is as follows:

- 9:00- 9:45 Nuclear Medicine: Charles M. Boyd, M.D., Moderator
 "Cardiac Dynamic Studies with a Baird Atomic System 70," J. T. Harris, M.D.
 "Cardiac Dynamic Studies with a Brattle Gate and a Digital Computer," J. M. Lane, M.D.
 "Peripheral Vascular Studies in Patients with Occlusive Vascular Disease," J. E. Slayden, M.D.
- 9:45-10:30 Computerized Axial Tomography: J. M. Lane, Moderator
 "How Do C.A.T. Systems Work?," G. V. Dalrymple, M.D.
 "Experience with an E.M.T. System," J. Morrison, M.D.
 "Experience with a Total Body C.A.T. System (ACTA Scanner)," Neil Crow, M.D.
- 10:30-10:45 Coffee Break
- 10:45-11:30 Ultrasound: Glenn V. Dalrymple, M.D., Moderator
 "Basic Principles and Ob-Gyn Applications," H. M. McAdoo, M.D.
 "Ultrasound Applications in Diseases of the Pancreas and Upper Abdomen," Joseph Norton, M.D.
 "Ultrasound Applications in Renal Disease," John C. Holder, M.D.
- 11:30-12:15 Film Panel: Wilma C. Diner, M.D., Moderator
 Panel: Murray T. Harris, M.D., Fayetteville
 R. Siebold, M.D., Texarkana
 A. Joseph, M.D., Pine Bluff
 R. Elliott, M.D., Searcy
- 12:15- 1:30 Cocktails and Lunch
- 1:30- 2:30 "The Selection of Radiographic Equipment for Special Studies," Melvin P. Judkins, M.D., Loma Linda University
- 2:30 Business Meeting of Arkansas Chapter, American College of Radiology

The *ENT Section* and the *Arkansas Society of Anesthesiologists* will have a joint meeting on Tuesday, April 27, in the Arlington. The schedule for the day will be as follows:

- 10:00 A.M. Business Meeting, ENT Section
 Report on Residency Program and Head and Neck Cancer Network, James Suen, M.D.
- 11:00 A.M. "Complications of Head and Neck Cancer Surgery," Nathan Austin, M.D., Chief Resident, ENT, Veterans Administration Hospital, Little Rock
- 11:20 A.M. "Snuff Dippers' Carcinoma — Fact or Fantasy," James Hawkins, M.D., Chief Resident, ENT, Arkansas Children's Hospital Little Rock
- 11:45 A.M. Luncheon
- 12:30 P.M. "Endoscopic Anesthesia," Noel Lawson, M.D., Associate Professor of Anesthesiology, University of Arkansas College of Medicine, Little Rock

1:00 P.M. "Pediatric Anesthesia — Considerations in the Patient Who Is to Have ENT Surgery," Walter Guinee, M.D., Assistant Professor of Anesthesiology, University of Arkansas College of Medicine, Little Rock

1:30 P.M. Panel Discussion: Problem Areas in Otolaryngic Anesthesia
"Adrenalin and Halothane"
"Positioning the Patient for Endoscopy, Ear Surgery, and Nasal Surgery"
"Local Stand-By"

Panelists: Walter Guinee, M.D.
Noel Lawson, M.D.
Robert N. McGrew, M.D.

2:00 P.M. Business Meeting, Anesthesiology

The *Arkansas Chapter of the American Academy of Pediatrics* will have a luncheon meeting beginning at 12:00 noon on Tuesday, April 27, in the Arlington. There will be a business session and a scientific program as follows:

Topic: Cardio-pulmonary Distress in the Young Infant — Case Presentations

Discussants: Abraham Rudolph, M.D., San Francisco

W. T. Dungan, M.D., Professor of Pediatrics, University of Arkansas College of Medicine

Florence Char, M.D., Professor of Pediatrics, UACM

J. B. Norton, Jr., M.D., Associate Professor of Pediatrics, UACM

The *Neurosurgery Section* will hold an annual luncheon-business meeting at 12:15 P.M. in the Arlington.

The *Arkansas State Urological Society* will meet on Tuesday, April 27, in the Arlington. The meeting will begin with an Attitude Adjustment Hour starting at 12:00 and lunch at 12:30 P.M. A business session will follow luncheon. Patrick Walsh, M.D., Chairman of the Department of Urology at Johns Hopkins School of Medicine, will present a scientific paper entitled "Sexual Differentiation: Normal and Abnormal." A pyelogram conference will follow Dr. Walsh's presentation.

The *Arkansas Academy of Family Physicians* will meet at 12:00 noon on Tuesday, April 27, in the Arlington. Joseph V. Fisher, of the Department of Family Medicine at the Medical University of South Carolina, will be guest speaker. His topic will be "Mental Health."

The *Arkansas Orthopaedic Society* will meet at 12:15 P.M. on Tuesday, April 27th, for a luncheon and business session.

The *Arkansas Society of Pathologists* will meet on Tuesday, April 27, at 12:30 P.M. for a business meeting and scientific program.

The *Arkansas Chapter of the American College of Obstetricians and Gynecologists* will meet at 12:30 P.M. on Tuesday, April 27, in the Arlington Hotel. Gary P. Wood, M.D., Assistant Professor, Department of Obstetrics and Gynecology, University of Arkansas College of Medicine, will speak on "Problems of Estrogen Therapy."

The *Arkansas Society of Internal Medicine* will meet at 12:30 P.M. on Tuesday, April 27, in the Arlington Hotel for an annual business meeting and election of officers.

Woman's Auxiliary

The 52nd Annual Session of the Woman's Auxiliary to the Arkansas Medical Society will be held April 25-27, 1976, in the Arlington Hotel, Hot Springs.

The following is an outline of the tentative convention schedule:

SUNDAY, APRIL 25

- 2:00 P.M. Registration
- 2:30 P.M. Board Meeting
- 6:30 P.M. Reception, Hosted by Council of the Arkansas Medical Society

MONDAY, APRIL 26

- 9:00 A.M. House of Delegates
- 12:00 Noon Luncheon, Hosted by Greene-Clay County Auxiliary
- 6:30 P.M. Reception, Hosted by Blue Cross-Blue Shield for Members of Medical Society and Auxiliary

TUESDAY, APRIL 27

- 8:00 A.M. Past Presidents' Breakfast
- 9:00 A.M. House of Delegates
- 12:00 Noon Luncheon, Hosted by Sebastian County Auxiliary
Post Convention Board Meeting
- 6:00 P.M. Cocktail Party with Medical Society
- 7:00 P.M. Inaugural Banquet of the Arkansas Medical Society

The Auxiliary will have as its guest for the convention Mrs. Norman H. Gardner, East Hampton, Connecticut, President-elect of the Woman's Auxiliary to the American Medical Association, and Mrs. J. Gordon Dees, Jackson, Mississippi, President of the Woman's Auxiliary to the Southern Medical Association.

CONVENTION COMMITTEES

General Convention Chairman: Mrs. Jack W. Kennedy, Hot Springs Village.

Registration: Garland County Auxiliary, Mrs. W. Y. Springer, Hot Springs, President.

AMA-ERF Booth: Mrs. David Barclay, Little Rock.

Monday Luncheon: Greene-Clay County Auxiliary, Mrs. M. P. Hazzard, Paragould, President.

Tuesday Luncheon: Sebastian County Auxiliary, Mrs. Kemal Kutait, Fort Smith, President.

Past Presidents' Breakfast: Mrs. Frank Padberg, Little Rock, and Mrs. Louis K. Hundley, Little Rock.

Publicity: Mrs. James Walt, Little Rock.

Resolutions Committee Chairman: Mrs. Gordon Oates, Little Rock.

Reading Committee: Mrs. Charles Wilkins, Russellville; Mrs. Walter Mizell, Benton; Mrs. Mason Lawson, Little Rock.

Technical Exhibits

The business firms who purchase exhibit space at our Annual Session contribute a great deal to the financing, as well as to the educational aspects, of the meeting. The number of visits to the technical exhibits is the only criterion by which these companies can judge the value they receive from the investment in booth rental, displays and employees' time. You will be rewarded for the time you spend visiting the exhibits. Following are descriptions of displays to be featured.

BRISTOL LABORATORIES

You are cordially invited to visit Bristol Laboratories' exhibit. Our representatives at the booth welcome the opportunity to answer your questions concerning the Bristol line of products featuring: CEFADYL® (sterile cephalirin sodium); KANTREX® Injection (kanamycin sulfate injection); TEGOPEN® (sodium cloxacillin); TETREX® (tetracycline phosphate complex); PROSTA-PHLIN® (sodium oxacillin); SALUTENSIN® (hydroflumethiazide and reserpine); NALDECON® (antihistamine decongestant); NALDEGISIC® (decongestant/analgesic); POLYCILLIN® (ampicillin); and the newest Bristol product, POLYMOX™ (amoxicillin).

NORTHWESTERN NATIONAL LIFE INSURANCE COMPANY

Information available regarding the Arkansas Medical Society Life Insurance Plan administered by Meyer F. Marks, Inc. Amount of insurance now has a limit of \$200,000. Also, information available on Professional Associations.

SCHERING CORPORATION

Physicians are invited to visit the Schering booth which will feature GARAMYCIN Injectables. Schering representatives attending the booth will also be introducing some new Schering products.

PARKE, DAVIS AND COMPANY

You are cordially invited to visit our booth where Medical Service Representatives will be in attendance to discuss Parke-Davis products especially selected to assist you in the practice of your profession.

RATHER, BEYER, AND HARPER

Representatives of Rather, Beyer, and Harper will have brochures and all information on the Arkansas Medical Society Group Plans of Insurance, specifically the Income Protection Plan, which is now issued on a guaranteed renewal basis and the office overhead expense plan. Records will be available so that each physician may review the insurance coverages which he has under the group plans endorsed by the Arkansas Medical Society.

SMITH KLINE AND FRENCH LABORATORIES

Featured will be our potassium-conserving oral diuretic/anti-hypertensive, "DYAZIDE," each capsule containing 50 mg. of "DYRENIUM" (brand of triamterene) and 25 mg. of hydrochlorothiazide. Representatives will be pleased to answer any questions you may have about this or other Smith Kline and French products.

ARKANSAS BLUE CROSS-BLUE SHIELD

Arkansas Blue Cross and Blue Shield cordially invites you to visit our booth where our representatives will be happy to discuss any of the programs we administer.

Currently, there are approximately 575,000 Arkansans enrolled in Arkansas Blue Cross and Blue Shield and we welcome the opportunity to serve you.

WILLIAM P. POYTHRESS AND COMPANY, INC.

William P. Poythress and Company, Inc., manufacturers of ethical pharmaceuticals for one-hundred-nineteen years, cordially invites you to visit our exhibit where our representative, "Bru" Brubaker, will be glad to discuss any Poythress products.

ORTHO PHARMACEUTICAL CORPORATION

Ortho Pharmaceutical Corporation is proud to present the most complete line of medically accepted products for the control of conception. Also on display will be our well-known products for the treatment of vaginitis.

MALLINCKRODT, INC.

Factory-trained personnel will be available to discuss RYNATAN®, RYNATUSS®, LUFYLLIN®, and DIUTENSEN®.

SANDOZ PHARMACEUTICALS

Sandoz Pharmaceuticals cordially invites you to visit our display where we are featuring MELLARIL, HYDERGINE and SANOREX.

Any of our representatives in attendance will gladly answer questions about these and other Sandoz products.

STUART PHARMACEUTICALS

The Stuart Pharmaceuticals' exhibit consists of graphic panels, literature, and samples pertaining to some or all of the following fine pharmaceutical products: MYLANTA/MYLANTA II, DIALOSE/DIALOSE PLUS, MYLICON-80, SORBITRATE and others.

PROFESSIONAL PRACTICE CONSULTANTS, INC.

You are invited to visit our booth where our representatives will be happy to discuss our services with you.

WILLIAM T. STOVER COMPANY, INC.

The William T. Stover Company, Inc., of Little Rock, will have a booth staffed with informed and qualified representatives—eager to welcome you and assist in any manner possible—as well as to show you the up-to-date developments in the medical-surgical industry.

E. R. SQUIBB AND SONS, INC.

E. R. Squibb and Sons, Inc., has long been a leader in the development of new therapeutic agents and equipment for the prevention and treatment of disease. You are cordially invited to meet our pharmaceutical representatives who will be available at our exhibit to discuss our full line of products, which will include our two newest, VELOSEF and HALOG.

MID CONTINENT LEASING COMPANY, INC.

Our exhibit area will consist of a table of various

brochures explaining the aspects of equipment leasing along with a continuous slide presentation depicting the many types of equipment available through leasing.

ROCHE LABORATORIES

Roche Laboratories, Nutley, New Jersey, invites members to visit with their representative in Booth 19.

PROFESSIONAL LEASING COMPANY, INC.

You are cordially invited to visit the Professional Leasing Company exhibit and meet our representatives who will welcome the opportunity to discuss the various types of lease-arrangements for the medical profession.

DOMELABORATORIES

The representative at the Dome Laboratories booth will be happy to discuss products of interest. A cordial welcome is extended to all members of the Society to visit the booth.

FIRST VARIABLE LIFE INSURANCE COMPANY

A SHORT LESSON ON CUTTING INCOME TAXES!

- Deferred Compensation — Exclusive IRS Advance Revenue Letter Ruling
- Qualified Pension and Profit Sharing Plans
Is it really worthwhile to incorporate?
- Tax Deferred Programs

FIRST ARKANSAS LEASING CORPORATION

Leasing — the advantages, options, and Internal Revenue Service requirements will be explained by FALCO representatives. We will have someone available during the display hours and invite the members of the Society to visit with us.

UAD LABORATORIES, INC.

A cordial invitation is extended to all members and guests to visit the UAD Laboratories booth.

A. H. ROBINS COMPANY

You are cordially invited to visit the A. H. Robins exhibit and meet our representative who will welcome the opportunity to discuss products of interest with you.

CUMMINGS X-RAY COMPANY

We plan to exhibit Amrad Craig 600 M.A. Radiographic Generator with 1/120 second solid state timer; Pako 14X-2 newly designed for greater efficiency in automatic

film processing; M-1 safelite for more light, better visibility in the dark room. Mettler introduces a better ultrasound with muscle stimulator on mobile cabinet, G.T.I. Myocain 5 for muscular contraction and analgesic effect; and the Cambridge VS-4, the evolutionary E.C.G., the first E.C.G. safe enough to exceed all requirements recommended by the American Heart Association.

SAFEGUARD BUSINESS SYSTEMS

Safeguard Business Systems will have representatives present to discuss with members of the Society their bookkeeping systems for medical offices. These services include billing, disbursements, and payroll.

PROFESSIONAL SERVICES OF ARKANSAS

Professional Services of Arkansas is a data processing firm specializing in accounts receivable billing service for the medical industry. The computerized service offers many management reports providing a wealth of information to the physician as well as producing the regular statements and insurance forms for the practice.

Our display will consist of samples of the forms and statements which are produced. We will also display a remote data terminal to allow the physician or his office to transmit information to the main computer by telephone line.

MARION LABORATORIES, INC.

Marion Laboratories representatives will be delighted to welcome members of the Society to our booth to discuss our latest patient benefit products with you.

MOUNTAIN VALLEY MINERAL WATER COMPANY

Mountain Valley Water offers complimentary service at its booth during the Convention.

This is Mountain Valley's 105th consecutive year of operation, the oldest bottled water in America, "But we'll never catch up with the Arkansas Medical Society in age," a spokesman said.

* * * *

The Arkansas Medical Society expresses appreciation to the following companies for educational grants for the Society's convention:

Geigy Pharmaceuticals
Eli Lilly and Company
A. H. Robins and Company



House of Delegates Business Affairs

Reports printed below are brought to the attention of individual members and the county medical societies. The items reported here represent those received in time for publication in advance of the meeting. All reports will be referred to reference committees. Members are urged to attend the open hearings of the reference committees to express their views. Refer-

ence committee hearings are scheduled for 3:30 P.M. on Sunday, April 25.

ANNUAL COMMITTEE REPORTS

Committee on Public Health

(Rural Health)

Ben N. Saltzman, M.D., Chairman

The Chairman of the Committee has participated in the National Rural Health Conference

held in Roanoke, Virginia, presenting a paper on "Getting Physicians Into Rural Communities," and has been asked to serve as a moderator for the next National Rural Health Conference to be held in Phoenix, Arizona, on April 8th and 9th, 1976. On July 18, 1975, he was elected Chairman of the State Health Advisory Committee of the State Cooperative Extension Service whose purpose is the development of a consumer health education program. The Committee on Public Health is being involved in this program in that it will help sponsor a state Rural Health Conference on May 27th and 28th, 1976, in Little Rock. At the time of the fall meeting of the Arkansas Medical Society on December 14th, a full committee meeting was held. Attending were Drs. Ed Easley, Bryant Swindoll, Milton Deneke, Wade W. Burnside, Jr., and Tom Honeycutt. Visitors were Dr. Mildred Ward and Dr. Kieu Quang Dao. Dr. Runyan Deere, Director of the State Health Education Advisory Committee, addressed the meeting outlining the need of the counties as determined by a survey.

The needs evolved were:

- (1) A delivery system of health care
- (2) Immunizations
- (3) Dental health
- (4) Venereal disease
- (5) Medical self help

The Committee then determined what should be part of a statewide rural health conference, and these were:

- (1) Health manpower
- (2) Regionalization of health care
- (3) Home health care services
- (4) National health insurance and its philosophy
- (5) Immunizations
- (6) Dental health
- (7) Medical self help
- (8) Health screening
- (9) Food handlers, particularly in day care centers
- (10) The importance of the support of any program by the medical profession

The Committee approved the concept of holding a State Rural Health Conference and agreed to be available for help in making the conference effective. The members of the Committee have been urged to attend the National Rural Health Conference in Phoenix.

The Chairman continues to serve as liaison with the State Health Department by his presence on the State Board of Health. We are enjoying an excellent relationship with the State Health Officer and the other officials of the State Health Department.

Committee on Mental Health

W. Payton Kolb, M.D., Chairman

The Committee on Mental Health is working on the question of the "Impaired Physician." The American Medical Association and the American Psychiatric Association have encouraged the local State Medical Societies to be involved in this project. This Committee is concerned itself with the problems of drug usage, alcohol, and psychiatric illness to the point of incapacitating the physician. We are concerned with his or her ability in regard to caring for patients and also the physician's own needs for help to restore him to a fulfilling and contributing life.

The recent report from the Department of Mental Health of the AMA is being used for back-up material. This is in process of study by the members of the Committee and by the Society's legal counsel. The model law as recommended by the AMA is being studied and further recommendations will be made later concerning changes in the medical practices law.

It is recognized that some activity is going on to help physicians who have developed problems brought to light by their being on the staffs of various hospitals. There is a problem of reaching the individual who is not on a hospital staff and/or is in an isolated setting. At this time, this Committee recommends the Councilor Districts discuss ways to establish voluntary groups of physicians to talk with the individual who has developed a problem. As plans are developed, it is anticipated there will be back-up at the state level and some means will be developed for reaching the recalcitrant individual or the one who is too incapacitated to respond voluntarily. Further recommendation will be made as plans are developed.

At this time, Blue Cross and Blue Shield, Inc., and the Aetna Insurance Company have developed a "Mental Health Report" to use in conjunction with claims made under the Federal Employees' Health Insurance Plan. This Committee strongly opposes this form as it is the

opinion of this Committee the form violates confidentiality beyond the release of information permission form signed by the patient. It is also the opinion of this Committee it is too time consuming and unnecessary to process the claims of a psychiatric nature. It is recognized the American Psychiatric Association is in the process of a study of this problem. It is recommended that the Arkansas Medical Society go on record as opposing the use of this form.

With the increasing use of non-physician mental health professionals as parts of the Mental Health Manpower Team, there are problems involving third party payment, the roles of the mental health professional, and the various other problems in communication and delivery of services. The plans for recruitment in the area of health manpower make it mandatory for all physicians to keep abreast of the developments in the health manpower programs and that the actual needs of the patient be protected at all times. The Committee is conscious of the Mental Health Programs developing outside of the medical community and although it is recognized some of these programs can be of help to the community, the Medical Society must be alert to these programs in order that the patient is protected at all times.

Some problems that have developed in the relationship between private practicing physicians and the Community Mental Health Centers and the State Hospital have been discussed. Some of these problems have been worked out and it is anticipated that continuing communication will exist. The Committee would recommend that the Medical Society oppose any action that would interfere with the doctor-patient relationship.

Committee on Medical Education **Lee B. Parker, Jr., M.D., Chairman**

As background for this committee report, mention should be made of actions which took place in 1974-75 prior to the 1975 annual meeting.

In November 1974 at the fall meeting, our committee met with a representative of the AMA Department of Continuing Medical Education and recommended to the Society that the Society apply for AMA approval to survey and accredit continuing medical education programs of hospitals, component medical societies, etc., within the State.

The Council and the House of Delegates both approved this request and in January, with AMA guidelines and a lot of good work by Leah Richmond, our application was made.

In mid 1975, the AMA notified us that the Society was given a one-year provisional approval for such surveys.

Our committee met in Little Rock in early October 1975 and transacted the following business:

1. Received a report from Dr. Neil Sims, director of continuing medical education at the University of Arkansas College of Medicine, on plans and activities of his office.
2. Extended discussions were held as to how best to implement our survey plans.
3. Agreed to meet again in December to finalize plans.

The committee met again in December 1975 and the following business was acted upon:

1. Final plans for conducting surveys were completed and agreed upon.
2. The Arkansas Medical Society staff was instructed to notify all component medical societies and all hospitals within the state that we have authority from the AMA to conduct surveys and grant approval for CME activities. Such surveys will be done only upon request, in the manner as set forth in our plans and agreed upon in our committee meetings and upon payment of the required fees and expenses.
3. Committee approved that a request be made to the Council to develop and institute a requirement that a physician member of the Arkansas Medical Society participate in continuing medical education programs to the extent of continued receipt of the AMA Physician's Recognition Award or maintain membership in the Academy of Family Physicians in order to retain membership in the Arkansas Medical Society.

As a result of these activities, it is now planned that the first survey for accreditation will be held in April 1976 when the AMS annual scientific program will be surveyed and the continuing education requirement has been referred by the House of Delegates to the Constitutional Revision Committee which will ready a report for presentation to this annual session.

The chairman would like to commend the

committee members, most of whom attended the meetings and participated in the discussions. This has helped us to conduct our business much better than has been the case in some years past.

Committee on Hospitals

Art B. Martin, M.D., Chairman

At the winter meeting of the Arkansas Medical Society, the Committee on Hospitals considered a problem referred by one of the members regarding substandard hospital services. After discussion, the Committee recommended that this problem be referred back to the Hospital Administration and the local county medical society. It was suggested to him that the Nursing Association will supply continued education courses to upgrade nursing services in hospitals throughout the state.

Categorization of hospital emergency capabilities was discussed. This problem is now being considered by the Emergency Medical System and by the Hospital Association. No action was felt necessary at this time since this is being acted upon by involved agencies.

Committee on Public Relations

Ray Jouett, M.D., Chairman

The Public Relations Committee of the Arkansas Medical Society has met one time since April 1975, and that was at the winter meeting of the Society held in Little Rock.

The Committee concerned itself with publicity in regard to the malpractice situation, particularly how the public could best be made aware of the most threatening situation concerning the private practice of medicine. Several options were considered, including the procurement of an advertising agency to help promote communication about this matter. The consensus of opinion was that the best procedure was on an individual basis of physician to patient contact, or physicians discussing the problem through speaking when requested.

Committee on Insurance

Banks Blackwell, M.D., Chairman

The Committee has been actively following the developments in reference to professional insurance coverage. The Society members heard with interest the comments of Dr. Gilbert Wilhelmus of Indiana at the winter meeting. A panel on malpractice problems was heard at the winter meeting with good audience participation.

Our effort before the Legislature led to the passage of the proposed constitutional amendment. As Dr. James Smith had told us in December, "Our mule is now loaded."

The Chairman recently received word that the Hartford Insurance Company plans non-renewal of its policies up for renewal after April 1, 1976.

The invasion of privacy by insurance companies requesting complete hospital records has been protested to the Council and is being investigated, with hopes of protecting our patients' privacy.

Committee on Medicine and Religion

C. R. Ellis, M.D., Chairman

The Committee on Medicine and Religion of the Arkansas Medical Society met on December 14, 1975, and on February 1, 1976. We have made plans for a Prayer Breakfast on the morning of April 26, 1976, at the meeting of the Arkansas Medical Society. Our present plans are to have Scripture reading from the Old Testament and the New Testament, vocal music by some member of our Society or a member's wife, and a speaker. We plan to finish this meeting in time for the members to get to the first part of the scientific program of our Arkansas Medical Society meeting. We hope that the details of this meeting can be worked out in time to have the program mailed out from the Arkansas Medical Society; however, we take this opportunity to urge the members of our Society to join us in this Prayer Breakfast along with their wives. Dr. Thomas Jansen has agreed to be Master of Ceremonies.

Your Committee has also made tentative plans for a statewide meeting including members of the medical profession and members of the clergy in Little Rock sometime late in 1976 or early 1977. We will give you more information concerning this meeting later this year, possibly by way of the Journal of the Arkansas Medical Society.

Your Committee urges the physicians of each component society to work out ways that they may cooperate with local clergymen to better meet the physical, mental, and spiritual needs of their patients. Your Committee would like very much to know of any methods found to be particularly useful in encouraging cooperation between the physicians and clergymen of any

local community. We shall endeavor to pass this on to other physicians interested in working out similar plans.

Committee on Arrangements for Annual Session
Asa Crow, M.D., Chairman

The Annual Session Committee held two meetings in late summer to plan the program for the 1976 annual session. The Committee decided to arrange a program which would qualify for Category I credit for Continuing Medical Education. The scientific program for the meeting will be on "Cardiovascular Disease." Speakers from various parts of the country, as well as University of Arkansas College of Medicine faculty, will present papers relating to diagnosis and treatment of cardiovascular disease.

Dr. Larry Lawson of Paragould is chairman of the scientific exhibits for the meeting. He has arranged a number of interesting exhibits.

The Committee also voted to have exhibits on the history of cardiovascular disease and the Society headquarters staff is working on arranging such exhibits.

The scientific program and other convention activities arranged by the Committee are printed elsewhere in this issue.

Appreciation is extended to committee members for their attendance at committee meetings and their assistance in arranging the program.

Physician-Nurse Joint Practice Committee
Robert Watson, M.D., Chairman

During the year 1975, and with only two exceptions, the Physician-Nurse Joint Practice Committee has met regularly each month. This Committee is made up of equal numbers of nurses and physicians.

The theme of these meetings is to examine the roles and functions of each profession and to promote means of providing an ever-improving quality of health care to the American people.

Discussion is given to examining the roles and functions of both professions and the development of changes in both practice and education to bring about such improvements in health care.

Through these productive discussions, much has been accomplished toward solidifying hopes and plans of each group; that by doing so, greater unity of thought can be presented when called for in future Legislative study.

Constitutional Revision Committee
Lee B. Parker, Jr., M.D., Chairman

A proposal for requiring continuing medical education participation in order to maintain Society membership was referred to this committee by the House of Delegates at the December 1975 meeting. At the present time, the committee is being surveyed and a delayed report will be submitted prior to the annual meeting in April 1976.

Student AMA Liaison Committee
Alfred Kahn, Jr., M.D., Chairman

This is a committee report from the Liaison Committee of the Arkansas Medical Society to the students of the University of Arkansas College of Medicine. This meeting was held on December 14, 1975, at 9:30 A.M. in the Camelot Inn. The meeting was attended by Mr. Robert Bradsher, Co-President of the Senior Class, and by Mr. Lance Monroe, Co-President of the Senior Class.

The discussion concerned two points of considerable interest.

First of all, it was brought up by Mr. Bradsher and Mr. Monroe that the students at the University of Arkansas College of Medicine have a very poor knowledge of the workings of the Arkansas Medical Society and of organized medicine as it operated in the State of Arkansas. It was their strong advice that the Arkansas Medical Society discuss the structure and functions of the Arkansas Medical Society with the students. They suggested that this begin early in the freshman year. They stated that it would be better not to make the early discussions too detailed, but through a series of discussions, which would become more and more detailed, the student could become knowledgeable about the manner in which the Arkansas Medical Society was organized and how it functions. They stated that many students did not know about the Liaison Committee with the Arkansas Medical Society. They stated that many of the students were quite ignorant of the Arkansas Medical Society and its many functions.

The other point of major interest, of which both Mr. Bradsher and Mr. Monroe spoke, was the matter of the Healing Arts Act. They would like to change the state law so that the so-called FLEX test would take the place of the basic science test. They both stated that they felt

that it was redundant for individuals to have to take the basic science test and the FLEX test. They proposed that legislation be enacted so that the FLEX test could substitute for the basic science test as administered in Arkansas. They suggested that there be adequate safeguards so that if the FLEX test was for any reason unsatisfactory for any one year, a basic science examination could be held. They stressed that the Arkansas Board of Medical Examiners should have authority to examine each test on an annual basis. They felt that overall the FLEX test was quite adequate examining for the basic sciences, but that if on any given year it was considered inadequate for any reason, the Arkansas Board of Medical Examiners or a Basic Science Board could annually set a minimum passing grade. This would exclude students who might have been considered to pass the FLEX examination, but whose qualifications were not sufficiently high to practice in Arkansas. They stated that they felt that eventually the FLEX test might be a substitute for taking any type of state examination—provided the student made a high enough grade. The FLEX test would, of course, have to be scrutinized by a Board of Medical Examiners. Mr. Monroe and Mr. Bradsher said that they advocated people who had not graduated from a bona fide medical school and who wanted to practice one of the health sciences similar to medicine would have to take the Arkansas Basic Science Examination; they did not feel that this would be discriminatory in any way. They stated that this concept had been used in other states and was found to be legally and judiciously acceptable.

This report is respectfully submitted as the Report of the Liaison Committee of the Arkansas Medical Society to the students of the University of Arkansas College of Medicine.

Medicaid Under-Utilization Committee

Art Martin, M.D., Chairman

Subject: Report of Committee on Medicaid Under-Utilization.

This committee has met on three occasions with the Arkansas Medical Systems representatives and representatives of the State Health Department in an attempt to evaluate the quality of medical care being received in outpatient facilities, including doctors' offices. Problems associated with the study are being considered

by computer programmers. It is not definite as to what information can be obtained from the information that would be useful in evaluating outpatient, either over-utilization or under-utilization from the Medicaid reports.

Private Insurance Review Committee

Robert F. McCrary, M.D., Chairman

The Private Insurance Review Committee met two times in 1975 and 1976. There were eleven cases adjudicated; there were four insurance companies involved; there were eleven doctors involved. The Committee ruled in favor of the doctors in seven cases and in favor of the insurance companies in four cases. At the present time, there are now six cases for review.

The membership of this committee has been active and shown interest throughout the year.

Medical Services Review Committee

Charles F. Wilkins, Jr., M.D., Chairman

The Medical Services Review Committee (formerly the Professional Services Review Organization) of the Arkansas Medical Society meets in the Board Room at the Blue Cross-Blue Shield Building in Little Rock on the fourth Wednesday of each month. The Committee, which consists of 24 family practitioners and specialists plus the Executive Committee of the Council of the Arkansas Medical Society and the Chairman, meets on each occasion. In addition, a sub-committee of sub-specialists are on call to meet with the Review Committee as needed. This has been particularly useful in the case of Plastic Surgery.

The MSRC serves as advisors to the Medical Director of Blue Cross-Blue Shield in considering claims under Medicare, Champus, and Blue Cross-Blue Shield UCR programs. In addition to claims review, the Committee also serves in an advisory committee in utilization review cases, and in quality of care cases.

Attendance at these meetings is excellent and member participation is also excellent. This continues to be a most important and active committee of the Arkansas Medical Society.

Seventh Councilor District

Professional Relations Committee

C. F. Peters, M.D., Chairman

The Seventh Councilor District Professional Relations Committee reports no cases came before the committee in 1975.

**Eighth Councilor District
Professional Relations Committee
Richard M. Logue, M.D., Chairman**

One case has been referred to this committee during the past calendar year. Extensive investigation of the circumstances surrounding this patient's complaints has been made and a report has been transmitted concerning these findings. I understand that this report is continuing to be reviewed and the committee stands ready to cooperate in any manner in an attempt to bring about a satisfactory resolution of this case.

**Ninth Councilor District
Professional Relations Committee
Ross Fowler, M.D., Chairman**

Two grievances were considered by the Ninth Councilor District Professional Relations Committee:

1. A compromise was reached on pre-marital examination charges.
2. A complaint, which was thought to be a personality conflict between the patient and the doctor, was considered. No unethical conduct of the doctor or neglect of the patient was found in this case.

**Tenth Councilor District
Professional Relations Committee
Samuel E. Landrum, M.D., Chairman**

This is the annual report of the Tenth Councilor District Professional Relations Committee, covering April 1975 to 1976.

During this time, five complaints were referred to the Committee for consideration. Investigation indicated most of these were based on a misunderstanding between the physician and the party complaining.

Four of the complaints were satisfied by the action of the Committee.

**First Councilor District
John B. Kirkley, M.D., Councilor**

This has been a year of meetings, more or less, and very little concrete action as far as the State Medical Society is concerned. During the past year, I have been studiously ignored by the component medical societies as far as spreading the faults of the Arkansas Society. I think this is due to the fact that an excellent job has been done by the Assistant to the Executive Vice President, Mr. John McIntosh, and I feel that he should be complimented for the public rela-

tions work that he has done with the component medical societies.

As most of the Society is aware, the senior students in the Medical Center are trying to find a way around the basic science examination, and they have my personal sympathy for this; however, I am afraid it will be another year or two before this matter can be resolved.

I attended a Governor's Conference on Medical Manpower in November at Hot Springs which was extremely interesting in that there are a large number of paramedical personnel in the state who have all the problems of any physician solved, if we will just listen to them.

In addition, I went to the American Medical Association Leadership Conference held in Chicago the latter part of January. There were some interesting talks there by workers and bureaucrats with HEW and various committees, from the Bureaucratic team in Washington. The consensus opinion is that the health industry is a large industry, absorbing 8% of the gross national product, and must be regulated just on that basis. The feeling of the bureaucrats seems to be it doesn't matter whether we do a good job or bad job, we need to be regulated.

It has been interesting to me in a one to one confrontation with various people concerned with health care that we physicians seemed to get our point over. It might not last too long, but at least the seed has been planted. In Hot Springs, the ones that I talked to did listen to our viewpoint, at least during the time we were speaking. I still believe that if we can continue to devote as much time to public relations as possible, and work this next year in order to get the malpractice amendment passed, that the image of medicine in Arkansas may be enhanced somewhat and certainly would not be tarnished any further.

**Second Councilor District
Paul Gray, M.D., Councilor
John E. Bell, M.D., Councilor**

The primary activities of the Second District Councilors since the last report involve primarily contacting physicians to encourage their support for the constitutional amendment presented at the special Legislative Session of January and February, 1976. Physicians throughout the councilor district were contacted and responded admirably by contacting their legislators, resulting

in favorable legislative consideration of the constitutional amendment. The councilors realize that a great deal more work will be necessary in order to accomplish adoption of the constitutional amendment.

The initiation of delegated PSRO status for hospitals in the Second Councilor District has been encouraged and, at present, several hospitals either have achieved delegated status or are in the process of application. This effort will be continued through the coming year.

Fifth Councilor District

J. B. Jameson, M.D., Councilor

Very little has transpired in this district other than events with statewide basis such as malpractice problems, utilization review problems and emergency room coverage. In Camden, week-end emergency room coverage has been largely solved by an organization composed of University of Arkansas House Staff Members.

In El Dorado, AHEC is fully operational.

Again in Camden, the Ouachita Hospital attempted to pass a millage increase to begin new hospital construction. This was soundly defeated.

The annual District Meeting is scheduled for El Dorado, January 21, 1976. I am attempting to survey Dallas, Ouachita, Bradley and Columbia Counties for a nominee to the Council for this year. Union County ordinarily retains one Council position permanently due to their numerical superiority.

Fifth Councilor District

John H. Moore, M.D., Councilor

The annual meeting of the Fifth Councilor District was held at the El Dorado Golf and Country Club on January 20, 1975, with Dr. Jack Dodson presiding. The program was presented by Dr. Harold Levy, a pediatrician of Shreveport, Louisiana, who spoke on the subject "Treatment of the Child With Minimal Brain Damage." The officers elected to serve for the year 1975 were: Dr. Robert Murfee, President; Dr. Jim Guthrie, Vice President; Dr. George Wynne, Secretary; Dr. Jack Jameson and Dr. John H. Moore, Councilors.

With the formation of the Health Service Agencies, two physicians from the Fifth Councilor District have been elected to serve on the governing board of the Area Four Health Serv-

ice Agency. They are Dr. Kenneth Duzan of El Dorado and Dr. Jim Guthrie of Camden.

During 1975, AHEC — El Dorado continued under the direction of Acting Director Dr. James Weedman. Throughout the year, six medical residents rotated through the service and six medical students spent a total of six weeks each in the program here. In 1975, Dr. George Warren of Smackover was appointed the director of the Family Practice Section of AHEC — El Dorado and it is planned that the program will become operational in 1976.

The annual meeting for 1976 of the Fifth Councilor District was held at the El Dorado Country Club on January 21. The program was given by Dr. Dola Thompson, Professor and Chairman of the Department of Anesthesia at the Medical Center. New officers elected for 1976 included: Dr. James Guthrie, President; Dr. George Wynne, Vice President; Dr. Charles Weber, Secretary; Dr. Jack Jameson and Dr. John H. Moore, Councilors.

Sixth Councilor District

C. Lynn Harris, M.D., Councilor

I believe my chief function has been to represent all doctors fairly and equally. I have tried to maintain an open line for doctors in this area to present their complaints. By reporting any abuses, I have tried to promote the high standards of the profession.

I have worked with the new councilor, Dr. A. E. Andrews of Texarkana, who is reporting on activity in Miller County, and I am reporting on activity in the other counties of the Sixth District.

On HJR 17, I worked on getting it out of committee and on the floor. By contacting other doctors to contact their representatives and senator to vote favorably helped our success. I was especially pleased with the work of my own representative, Larry Patterson, who is a lawyer, and spoke for the amendment and was quoted in the newspapers as speaking out for the passage. Senator Olen Hendrix pledged his support to me.

I worked on recruiting new doctors in this area by talking to medical students and attending some social functions to encourage new graduates to settle in our district. I encouraged the Hope Chamber of Commerce to get a booth in

the Health Careers Fair in Little Rock to promote recruitment of doctors in this area.

The number of doctors in the district has increased — three in Prescott, two in Nashville, one in Stamps, two in DeQueen and two in Mena.

Sixth Councilor District

A. E. Andrews, M.D., Councilor

Most of my district work this year has been in working on activities associated with the malpractice amendment, development of the Health Systems Agency Committee for this area of the state, and development of an Area Health Education Center Program.

Because of the efforts of many local physicians, the malpractice amendment has successfully made it through the Legislative Council, committees of the House and Senate, and then voted in favorably. It will now be on the ballot in November and its passage will require even more effort on the part of all physicians in the state.

An HSA Committee has been organized in this area and there will be several doctors on the committee for Area Four (22 counties). For the western half of this area, we have three doctors on the Board (Drs. Guthrie, Duzan and Kittrell) and I feel that they will represent us well.

An AHEC Program has been established in Texarkana, and the first students are expected in July 1976. This program will allow more of our graduates to get their training in Arkansas and, perhaps, they will remain here to practice and, hopefully, they will locate in Southwest Arkansas.

Seventh Councilor District

Robert F. McCrary, M.D., Councilor

The Councilor District decided to inaugurate a yearly medical meeting. The response to this was not favorable the past year but, in 1976, the district plans a weekend session for the doctors in District Seven concerning Professional Services Review Organizations.

Eighth Councilor District

W. Payton Kolb, M.D., Councilor

During 1975, the members in the Eighth Councilor District:

Provided three scholarships for underprivileged children to attend the Aldersgate Medical Camp.

Adopted a procedure for handling press rela-

tions between individual physicians and the press in instances when public figures are patients.

Appointed a committee to select names of physicians to serve on the Malpractice Insurance Commission panel.

Agreed to be a sponsoring agency of the six regional meetings sponsored by the Central Arkansas Council for Aging.

Were informed by the Little Rock Post Office that the Pulaski County Medical Society would no longer be considered eligible to mail as a non-profit organization since eligibility was granted only to organizations who spent a major part of their time in medical research or in education.

A special committee worked with local ambulance companies in alleviating problems brought to physicians' attention by certain patients.

Made recommendations to the Pulaski County Medical Society Auxiliary relative to eligibility of nursing scholarship recipients.

Approved the purchase of new transmitting equipment for the Society's exchange service in view of a ruling made by FCC that the frequency of the service would have to be changed.

Named a member of the Pulaski County Medical Society to serve as chairman of the physician's section of the United Way.

Instructed the two PCMS Councilors to the Arkansas Medical Society to appoint a physician to fill a vacancy on the Arkansas Medical Society Professional Relations Committee.

Invited the Dean of the School of Nursing of the University of Arkansas Medical Center to discuss the current nursing programs available at the Medical Center.

Took action to support public health authorities in their attempt to prevent the repeal of the anti-rabies law.

Presented plaques of appreciation to the following members:

Dr. Gordon Holt — for devotion to duties as coroner.

Dr. John McCollough Smith — for many years of volunteer service as team physician of Central High School.

Dr. Elvin Shuffield — for untiring efforts in legislative matters of interest to the medical profession.

Nominated Dr. Jerome Levy and Dr. Warren

Douglas to serve as the district's representatives to the new Health Systems Agency.

Tenth Councilor District
C. C. Long, M.D., Councilor
Kemal Kutait, M.D., Councilor

The Tenth Councilor District held a dinner meeting at Wyatt's Cafeteria beginning at 7:00 p.m., February 10, 1976. All members of the Councilor District were the invited guests of the Sebastian County Medical Society.

Following the dinner meeting, Dr. A. S. Koenig, Jr., President-elect of the Arkansas Medical Society, was the principal speaker. In his address, he discussed the HSA legislation, the organizational structure of the HSA at the state, area and local level, and the potential impact which this legislation will have on the practice of medicine and the delivery of all health services.

Dr. Kemal Kutait, Chairman of the ARKPAC Board, expressed the appreciation of the Board for the recent physician support of the legislation that insured that the so-called malpractice amendment would be on the ballot in the forthcoming general election. He further stated the necessity for the physicians to be active politically through their PAC organizations and independently in safeguarding their rights to continue to deliver health care in the best possible manner.

There were several questions and comments from the audience and it was felt that, in general, a considerable amount of information concerning the HSA and the present political climate was given to the members.

Report of the Council
C. C. Long, M.D., Chairman

The Council of the Arkansas Medical Society met on Sunday, August 24, 1975, at the Camelot Inn in Little Rock and transacted the following business:

1. Voted to hold the 1977 Annual Session on April 24-27 at the Camelot Inn in Little Rock.
2. Accepted a rate increase of 22.8% on the Society's Blue Cross-Blue Shield group plan effective September 1.
3. Approved the appointment of Dr. James Rasch to the Eighth Councilor District Professional Relations Committee.

4. Voted to urge members of the Legislature to submit an amendment of the State Constitution to the voters which would make remedial legislation on medical malpractice possible.
5. Heard a report from Mr. Schaefer on Public Law 93-641 on the developments on Health Service Areas in the State and received his recommendation that physicians take an active part in the formation and leadership of the Health Service Areas.
6. Approved Medical Society sponsorship of a travel program conducted by INTRAV consisting of travel to the South Pacific in March and one to Europe in July.
7. Approved scheduling the winter meeting for December 14th at the Camelot Inn in Little Rock.
8. Voted to give moral support to the Arkansas Association for Mental Health to conduct their program of furnishing pamphlets to new mothers.
9. Authorized the State Headquarters to enter into a ten-year lease for office space to be sublet to the Arkansas Foundation for Medical Care.

The Council met on Sunday, December 14, 1975, at the Camelot Inn in Little Rock and transacted the following business:

1. Recommended that Dr. Kutait confer with the Council's Physician-Nurse Joint Practice Committee concerning impending problems which seem to be developing with nurse practitioners in Sebastian County.
2. Adopted a motion opposing the State Hospital functioning exclusively through government agencies. Council also went on record as requesting the State Hospital to require mental health centers to operate within the guidelines of high quality medical care.
3. Received for information reports of developments under Public Law 93-641.
4. Received as information a report from the Committee on Medical Education recommending that continuing medical education be made a requirement for membership in the Arkansas Medical Society.
5. Voted to endorse a Disease Surveillance System proposed by the Acting Director of the Division of Communicable Disease of the Arkansas State Department of Health.

6. Voted to request a change in regulations for government programs to allow physicians a choice of collecting their fees from either the patient or the government agency.
7. Appointed W. P. Phillips of Fort Smith as an additional member of the Board of Directors of ArkPac.
8. Tabled recommendations from the American Medical Association for establishment of uniform membership classifications.
9. Requested that a Council-appointed committee continue to work with medical students to see if the problem of the medical students' unwillingness to take the Healing Arts examination could be ameliorated in any manner.
10. Authorized expenditure of up to \$750 for consultant services to bring the Society's employee retirement plan into compliance with the Federal Retirement Income Security Act of 1974.

The Council met on Sunday, February 1, 1976, at the Camelot Inn in Little Rock and transacted the following business:

1. The Council observed a moment of silence in memory of Dr. C. Lewis Hyatt and Dr. Winston Shorey.
2. Heard expressions of appreciation for the work of Dr. Shuffield and Mr. Warren in getting the Legislature to recommend the malpractice amendment for a vote of the people.
3. Dr. Long and Mr. Schaefer expressed thanks to the members of the Society and Auxiliary for their help in making legislative contacts. Dr. Townsend stressed the need for members of the Society to give Dr. Shuffield more support in his legislative efforts.
4. Decided to support a resolution by the Medical Society of the State of New York opposing the use of the Social Security number as a universal numbering identifier.
5. At the request of C. R. Ellis, voted to underwrite the Prayer Breakfast at the 1976 Annual Session in an amount up to \$300 if receipts are not sufficient to cover costs.
6. Gave approval to the concept of a new approach to making Blue Shield payments as presented by George Mitchell. The plan envisions a relative value schedule and a dollar conversion factor on a statewide basis.

7. Voted to approve the principle of proposed legislation by Congressmen Hammerschmidt, Thornton and Alexander, which would substitute a single statewide fee schedule for the present five area UCR system under Medicare.
8. Heard the President of the Medical Education Foundation for Arkansas, Dr. Robert Watson, report on the Foundation's investment program for Foundation funds and its application of income from the investment program to the purposes of the Foundation. The Council voted an expression of thanks to Dr. Watson and approved and endorsed the Foundation's philosophy and its handling of funds.
9. Voted to write all physicians representing the Medical Society on the Health Systems Agencies' boards to ascertain whether or not they would be able to participate fully in health planning activities. Any who indicate doubt as to their ability to participate fully will be asked to consider suggesting someone to take their place.
10. Authorized the Chairman to re-evaluate the Council committees which have been in existence for an indefinite time and to update the membership of the Council committees and report back to the Council.
11. Selected Dr. John P. Burge of Lake Village as a nominee for the Sixth Congressional District position on the State Board of Health on the listing of nominees which include Dr. Robert McCrary and Dr. Robert Atkinson.
12. Selected T. E. Townsend as a nominee for a position on the Council on Medical Service of the American Medical Association.
13. Accepted and approved the Society's budget for 1976 as presented by the Budget Committee.
14. Authorized the discontinuance of the 1% employee contribution to the pension plan and refunding previously made contributions by them in order to simplify the extensive reporting requirements of the new Federal Pension Law.

Report of the Executive Vice President

Mr. Paul C. Schaefer

1975 saw the development of four major areas of responsibility for the Arkansas Medical Society.

From previously enacted law, the Professional Services Review Organization came into being with the Society in charge of the creation and early development of the Foundation which will implement the law throughout the State. It is believed that the Foundation, because of the careful attention given it by the Society, will develop into an organization reflecting the ethics of medicine, and a rational approach to the daily practice of medicine while minimizing the frustrating influence of Federal interference in what has been a free and unfettered profession.

In February of 1975, the gathering malpractice storm hit Arkansas with the announcement by our only carrier that they would increase premiums by 300% and change to a less desirable form of insurance. The insurance company further stated that if they didn't get what they were demanding, they would withdraw from the state.

Because of leadership of the Medical Society and the effective and almost unanimous efforts of physicians all over Arkansas, the State Legislature submitted a State Constitutional Amendment to the voters for decision in November. The amendment, if passed, will make it possible for the Legislature to enact laws which will, hopefully, give a better balance to rules of law in a progressively more litigious society. There are two more difficult steps before relief can be expected: convincing the voters to approve our amendment; prevailing upon the Legislature to pass legislation which will protect the public from the appetites of the few.

Another previously enacted law began to influence Arkansas in 1975. Public Law 93-641 establishing Health Service Areas became effective. The law gives enormous power to health planners. It is much worse than PSRO or any socialized medicine scheme yet proposed. There are four Health Service Areas in Arkansas, each governed by a board on which physician representation is generally limited to about 10%. To have any influence in the operation of the HSA (which are really all-powerful), the profession must have truly dedicated doctors who will attend meetings on short notice during their practice hours; who will be articulate in the defense of private practice and free enterprise.

The fourth major area of concern was a

stepped-up effort to eliminate the five-area concept in the payment of fees for government-financed medical care schemes. A year-long battle has been waged, principally through the executive branch of government, to raise all areas to the level of Area No. 1. Representatives of the Society have talked with the highest officials of HEW and have attracted the attention of the White House to the problem. We are optimistic that we are on the verge of success. As insurance, however, we have begun efforts to have the system changed by legislation should administrative change fail to materialize.

The aforementioned efforts, along with less pressing but nevertheless important projects, have kept your officers and your headquarters extremely busy and under constant tension throughout the year. The importance of organization is emphasized by events of each succeeding year.

Your profession as well as every other facet of the capitalist, private enterprise system is under increasing (and increasingly successful) attack by the disciples of big-brother government. Only sacrifice of money, time and effort will even slow the degradation of the life-style so many Americans have enjoyed for 200 years.

Coinciding almost exactly with the Bicentennial of the United States is the twenty-fifth anniversary of the Executive Vice President's service to the Arkansas Medical Society. They have been twenty-five years of satisfaction to him. The association with the many friends in the Society has been among the great rewards of the position. "Fighting the good fight" for principles firmly believed in has been gratifying. The Executive Vice President salutes all those officers and members, living and dead, who have given up their evenings and weekends on countless occasions to defend medicine and protect their patients through Medical Society programs. Thanks to all who have responded to our calls for help. You have made every one of the past twenty-five — very good years!

Budget Committee

H. W. Thomas, M.D., Chairman

The Budget Committee submitted the following budget for 1976. The complete budget, as presented to the Council, is available to any member for his inspection at his request.

ARKANSAS MEDICAL SOCIETY MEETING, APRIL 25-28, 1976

INCOME		
<i>Budget Item</i>		<i>1976 Budget</i>
Membership Dues		\$188,000.00
Journal Advertising		
Local	\$12,000.00	
National	17,000.00	29,000.00
Booth Income		7,100.00
Annual Session Income		2,500.00
AMA Reimbursement		2,000.00
Miscellaneous & Rosters		450.00
Interest on Government Securities		12,000.00
Specialty Desk		650.00
Intrav		2,000.00
Ark. Foundation for Medical Care		16,800.00

		\$260,500.00

EXPENSES		
<i>Budget Item</i>		<i>1976 Budget</i>
Salaries		
Society	\$90,310.00	
Public Relations	14,041.00	
Journal	13,262.00	
Exhibits	500.00	\$118,113.00
Travel & Convention		
Society	16,250.00	
Public Relations	3,000.00	
Journal	750.00	20,000.00
Taxes		
Society	4,525.00	
Journal	755.00	
Exhibits	920.00	6,200.00
Retirement		
Society	26,047.00	
Journal	3,219.00	29,266.00
Stationery & Printing		
Society	3,400.00	
Public Relations	50.00	
Journal	300.00	
Exhibits	50.00	3,800.00
Office Supplies & Expense		
Society	6,075.00	
Public Relations	25.00	
Journal	900.00	7,000.00
Telephone & Telegraph		
Society	2,775.00	
Public Relations	700.00	
Journal	210.00	
Exhibits	15.00	3,700.00
Rent		
Society	14,940.00	
Journal	660.00	15,600.00

<i>Budget Item</i>		<i>1976 Budget</i>
Postage		
Society	13,580.00	
Public Relations	50.00	
Journal	2,200.00	
Exhibits	50.00	15,880.00
Insurance & Bonds		
Society	4,950.00	
Journal	650.00	5,600.00
Auditing		
Society	900.00	
Journal	100.00	1,000.00
Council Expense		500.00
Journal Printing		31,000.00
Annual Session		
Society	8,000.00	
Exhibits	2,000.00	10,000.00
Winter Meeting		2,000.00
Dues & Subscriptions		
Society	4,100.00	
Journal	400.00	4,500.00
Gifts & Contributions		
Society	600.00	
Journal	50.00	650.00
Woman's Auxiliary		1,200.00
Legal Services		
Society	5,850.00	
Journal	650.00	6,500.00
Special Committee		
Society	150.00	
Public Relations	150.00	300.00
Rural Health		500.00
Miscellaneous		40.00
Freight & Express		
Society	12.50	
Journal	12.50	25.00
Office Equipment		2,000.00
Consultant		500.00

		\$285,874.00

**Report of AMA Meeting
November 30-December 3, 1975
Honolulu, Hawaii
Purcell Smith, Jr., M.D., Delegate**

This summary covers many of the subjects considered during the 29th Clinical Convention in Honolulu, but is not meant to be a complete report of all actions taken.

REPORT OF THE AMA PRESIDENT

In his address to the House of Delegates, AMA President Max H. Parrott pointed to the "growing attacks on the physician as an individual and

on the manner and spirit in which he practices" and said, "No longer can we find dubious comfort in seeing organized medicine serve as an impersonal fall guy for such abuse while we personally are spared." He noted that it is possible for the individual physician to consider AMA remote from his problems simply because it is an institution. "Yet, it is for the individual and through the individual that this Association exists," he said. "Only through this institution can a physician cast his shadow on the wide range of problems he faces in his ability to serve his patients." Dr. Parrott cited AMA actions in continuing education, in fighting Federal intervention, and in seeking solutions to professional liability insurance problems.

SUMMARY OF ACTIONS OF THE HOUSE OF DELEGATES

I. ASSOCIATION AND INTERNAL MATTERS OF THE HOUSE:

Fiscal Affairs and Priorities: The Ad Hoc Committee on Internal Affairs, established by the House at the 1975 Annual Convention, reported in detail on the AMA's financial affairs and concluded that the priorities approved by the House are receiving appropriate financial emphasis and attention. The House adopted the Committee's recommendation that the officers, trustees, and the administration be commended for "the courageous, intelligent, and diligent manner in which they have addressed and moved toward solution of the problems of the AMA in reference to fiscal affairs, organizational structure and identification of the goals and priorities of the Association." The House adopted a Board report proposing that billing of 1975 members who have not paid the mandatory \$60 special assessment be continued during the calendar year 1976. As of November 20, the Board reported, 141,411 members had paid the assessment and revenue from the assessment was about \$8.5 million.

Organizational Structure: A series of proposals to change the structure of the AMA, presented by the Council on Long Range Planning and Development, was debated by the House. Rejected were recommendations that would have made state associations the basic membership units, with all members of the state associations becoming AMA members, and changed representation in the House to provide delegates for

specialty societies and other physician organizations. Recommendations that called for elimination of the section councils and the creation of affiliate membership for specialty societies were referred to the Council for reconsideration. The House voted to designate all councils as councils of the AMA, with all except the Judicial Council reporting through the Board of Trustees to the House. It added that the Board would retain its fiduciary and corporate responsibilities in transmitting council reports to the House. Except for the section councils, the Council on Scientific Assembly and the Council on Legislation, all councils would be elected by the House from nominations submitted by the Board and by delegates from the House floor. A recommendation that the House function with as few councils as possible and that committees with limited time-frames be used to accomplish specific goals was approved by the House. A recommendation for the establishment of eight special councils was sent to the Board for preparation of details and presentation at the 1976 Annual Convention. The House accepted the Council's recommendation to abolish the office of AMA vice president. It also established a line of succession in case of the death, disability or resignation of the president. He would be succeeded by the president-elect, who would continue to serve during his own elected term. The Speaker of the House would assume the presidency if the office became vacant while the office of president-elect also was vacant. The House actions on the report of the Council on Long Range Planning and Development will be studied by the Council on Constitution and Bylaws and presented at the 1976 Annual Convention. Necessary changes in the Bylaws will require a two-thirds vote at that time.

II. PHYSICIANS AND THE GOVERNMENT:

Reimbursement Under Government Health Programs: Aggressive steps to counter Federal incursion in the practice of medicine were taken by the House of Delegates. It adopted a Board of Trustees report, calling on medical societies to express to Congress their concern that proposed new amendments to Medicare and Medicaid would discourage physician participation and defeat the goals of the Federal programs. The amendments would fix Medicaid reimbursement at 80% of the Medicare basis, which is limited

by the 75th percentile provisions and "unrealistic economic indexes." "Two levels of care, one for private patients and one for patients whose care is provided as benefits under federal programs, is not the goal of physicians and it was not the avowed goal of Congress when these programs were established," the Board report said.

Federal Health Planning Program: A Board report detailing AMA activities opposing the National Health Planning and Resources Development Act was approved by the House. "Legal action is under advisement and there appears to be sufficient grounds on which to challenge the constitutionality of the law at the appropriate time," the report said.

Rule Making by Administrative Agencies: The House reaffirmed its support of action to curtail rule-making by administrative agencies through the *Federal Register*. In fact, the AMA developed a bill to correct rule-making abuses and called on medical societies and individual physicians to give active support to the bill (HR 10301).

III. PHYSICIANS AND THE PUBLIC:

Professional Liability Proposals: An expanded program of attack on professional liability insurance problems was approved by the House. The program includes reaffirmed support for the American Medical Assurance Company, plus intensified activity in tort reform, membership in public communication projects, risk management and quality control projects, and the development of compensation and arbitration models to test effectiveness in reducing the frequency of claims.

Medical Discipline: The House approved the establishment of an Ad Hoc Committee on Medical Discipline. As outlined in a report from the Board, the committee will determine the effectiveness of discipline and whether improvement in the disciplinary system will result in a decreased incidence of malpractice claims; review the mechanisms of medical associations and the procedures of hospitals; and recommend additional improvements in state legislation and licensure board regulations.

National Health Insurance: The AMA position on health manpower legislation, as presented in testimony before Congress, was reaffirmed by the House. The House voted down a move to withdraw its support of the AMA-

developed national health insurance bill (HR 6222) and to oppose all NHI programs. In backing HR 6222, the House called on AMA spokesmen and publications to make it clear that the bill is an NHI program based on the purchase of private health insurance.

IV. PHYSICIANS AND HOSPITALS AND MEDICAL SCHOOLS:

Interns and Residents: A Board report defining interns and residents as both students and employees was adopted by the House. As employees, interns and residents have a legal right to organize and engage in collective bargaining, the report said, and it is appropriate for medical societies to aid or represent interns and residents and attending physicians in resolving disputes with hospitals and others. "Such activities," the report stated, "should be geared to achieve legitimate objectives without sacrificing the quality of graduate medical education or patient care." In another action, the House urged hospitals "to take all reasonable measures to resolve labor disputes expeditiously so that citizens of the community are not deprived of essential medical services."

Physician Relationships with Hospitals: Two reports dealing with physician relationships with hospitals were adopted by the House. A Board report calls for a joint program with medical societies to provide consultation and representation on behalf of members in "grievances, disputes, professional problems, or terms or condition of salaried employment by hospitals or privileges in the case of attending physicians who are not hospital employees." The other report describes the findings of a Council on Medical Service survey of mechanisms used by medical societies in developing liaison with and assisting medical staffs in their dealings with hospitals and other institutions. The report will be distributed to medical societies. The House also stated that physicians acting as spokesmen for the medical staff to hospital governing boards should be elected by the medical staff.

V. MISCELLANEOUS ACTIONS OF THE HOUSE:

Miscellaneous House Actions Included: 1) Re-activation of an AMA committee against quackery; 2) Disclosure of government grants accepted by the AMA (presently there are eight contracts covering the period 1972 to 1977 totaling \$2.5 million); 3) Support of the concept of compen-

sation of physicians for utilization review of inpatient care.

**Report of the
Arkansas State Medical Board
January 1, 1975-January 1, 1976**

The Secretary of the Arkansas State Medical Board makes the following report of the activities of this board since the last meeting of the Arkansas Medical Society:

The officers and members are as follows:

Ross Fowler, M.D., President
H. Elvin Shuffield, M.D., Vice President
Hugh R. Edwards, M.D.
Frank M. Burton, M.D.
John F. Guenther, M.D.
George F. Wynne, M.D.
C. Stanley Applegate, Jr., M.D.
Bascom P. Raney, M.D.
Joe Verser, M.D., Secretary-Treasurer
Eugene R. Warren, Attorney

After a public hearing, the board adopted regulations and requirements relative to the licensing of foreign graduates. These regulations and requirements are listed below:

Graduates of foreign medical schools are required to comply with the following regulations in order to obtain an Arkansas license to practice medicine. Temporary Permits are not issued to graduates of foreign medical schools.

1. Be twenty-one years of age.
2. Be a citizen of the U.S. or have filed a Declaration of Intention to become a citizen of the U. S. (Certificate of "Declaration of Intention" must be presented.)
3. Be of good moral character.
4. Present in person his or her original diploma (with English translation) from the medical school from which he or she was graduated, together with a letter of recommendation signed by the Dean or any other Senior Administrator of the medical school from which applicant was graduated, Dean's or Administrator's signature to be authenticated by American Consul in district in which school is located.
5. Demonstrate in personal interview ability to read, write and speak English fluently, and, also, demonstrate adequate training and ability sufficient to permit the practice of medicine in accordance with accepted medical practice in the State of Arkansas.

6. Present documented evidence that he or she has served one year as an intern or resident in an accredited medical school affiliated hospital in the U. S.
7. Provide indisputable identification.
8. Present a standard ECFMG certificate.
9. Present evidence that he or she holds a valid unrevoked certificate issued by the State Board of Examiners in the Healing Arts.
10. Pass the FLEX examination with a FLEX weighted average grade of at least 75% given by the Arkansas State Medical Board or any other state board.

Scheduled a public hearing, to be held February 19, 1976, to adopt rules and regulations relative to the reporting of malpractice claims by physicians as required by Arkansas law.

Adopted a regulation that the FLEX weighted average for a passing grade must be 75% and that applicants for licensure by reciprocity on the basis of FLEX must have a FLEX weighted average of 75%.

The board approved a motion to have the attorney for the board prepare legislation to be introduced at the 1977 Legislature which would permit the board to require mandatory continued education in order for physicians to be re-certified for licensure. The board would have the jurisdiction to set the type of continued education and postgraduate training required.

A yearly financial report of the board's activities prepared by Johnston, Freeman & Jones, C.P.A., was sent to and approved by the Council of the Arkansas Medical Society.

The board investigated every case of violation of the Medical Practices Act reported to the secretary during the year. Following is a summary of the board's proceedings.

Physicians registered for 1975:

Resident	2,173
Non-resident	1,568
Physicians licensed by examination	99
Physicians licensed by reciprocity	100
Physicians certified to other states	120
Licenses revoked for non-payment of annual registration fee	31
Licenses suspended for non-payment of annual registration fee	54
Licenses suspended for violation of Medical Practices Act	3
Cases pending for violation of Medical Practices Act	5

Disciplinary action taken by the board against physicians for violation of Medical Practices Act	9
Physicians whose BNDD number ordered revoked for violation of Controlled Drug Act	3

ARKANSAS STATE MEDICAL BOARD
Balance Sheet
June 30, 1975

ASSETS			
Cash on hand		\$	6.00
Cash in banks —			
Bank of Weiner, Weiner, Arkansas			
Certificate of Deposit #362	\$ 8,553.71		
Certificate of Deposit #392	2,746.35	11,300.06	
Bank of Harrisburg, Arkansas			
Checking account	\$ 33,057.83		
Certificate of Deposit #2298	12,999.70		
Certificate of Deposit	7,000.30	53,057.83	
Bank of Delight, Arkansas			
Certificate of Deposit	\$ 30,000.00	30,000.00	
Office equipment		3,545.97	
TOTAL ASSETS		\$	97,909.86
LIABILITIES AND SURPLUS			
LIABILITIES			
Withholding and FICA taxes deducted and unpaid for the quarter ended June 30, 1975		\$	885.91
SURPLUS			
Balance at beginning of year	\$ 80,167.47		
Add: Excess of receipts over disbursements for year ended June 30, 1975			
	\$17,251.66		
Less: Increase in payroll taxes withheld but not remitted at June 30, 1975	(395.18)	16,856.48	97,023.95
TOTAL LIABILITIES AND SURPLUS		\$	97,909.86

**Summary of Arkansas State Department
of Health Activities**

Rex C. Ramsay, Jr., Director

The Arkansas Department of Health is one of the major state agencies comprising the Governor's cabinet. There are six major bureaus within the Department. These are: Administrative Services, Community Health Services, Medical Care Services, Health Facility Services, Public Health Engineering and Environmental Health Services.

The demand by Arkansans for quality health services has brought about continued growth

and expansion of services in the Health Department, although budget expansion has been minimal.

Today, there are approximately 1,350 employees in the Health Department. All of these people are utilized to carry out the programs of the six bureaus.

For calendar year 1974, a total of 33,860 live births (16.4 per 1,000 population) and 21,917 deaths (10.6 per 1,000 population) were recorded. The number of photostats of vital events issued during the year was 199,924, an average of 797 copies per work day.

Educational services continued to expand with "in-house" development of literature and audio-visual aids.

This year something new was added — a physical fitness program for Department employees. The eight-week program was offered to all employees each day during their lunch period. The program consisted of several sessions on basic nutrition, aerobics, body size and weight, "warm-up" exercises and progressed to more vigorous exercises.

Requests for audio-visual materials seemed to double.

Inspection, sample collection, testing, review and surveys utilized by Food Protection Services assure Arkansans of safe, edible food and milk and dairy products.

Nursing clinics include the areas of family planning, maternity, tuberculosis, child health, immunization and adult health maintenance. Based on the first six months of tabulated statistics, a total of 23,150 children were seen in pediatric screening; 296,578 immunizations were given; 59,122 home visits were made, which included 17,732 visits to homebound patients. Another 1,757,790 individual contacts were made and 486,267 individuals were seen in other nursing clinics.

Nursing staff in the central office continued to provide hypertension screening of Health Department employees and participated in the weekly international immunization clinic.

During FY 1975, a total of 31,814 women received pap smears. There were 76,789 family planning clinic visits and 11,366 maternity clinic visits.

A Cervical Cancer Screening Program was

initiated through a grant from the National Institute of Health to make available pap smears to all women in the state who request this service.

There were 16,800 well child clinic visits, with social service and nutrition counseling provided when available. Other childrens' services included 21,362 PKU test on newborns, 157,000 vision screening tests, 145,000 hearing screening tests and services to 24,533 children through the Early and Periodic Screening Program.

The WIC (Woman, Infants and Children) Program of Supplemental Foods serves 14 southeast Arkansas counties. As of June, 1975, there were 3,991 active participants. The authorized case-load is 4,000. The program is funded through the Department of Agriculture and operates on a voucher system through 113 local food stores.

The Handicapped Children's Center provided 634 mental retardation evaluations (434 were new patients), 873 speech and hearing evaluations (616 were new patients), 71 hearing aid evaluations and 109 hearing aid rechecks. A total of 1,851 speech and language therapy sessions and 168 group sessions for hearing impaired children were conducted. There were 715 dental visits by handicapped children.

The communicable Disease Surveillance System continued to improve through use of a state-wide toll-free hot line and code-a-phone recorder for reporting of communicable diseases.

Investigations were made of disease problems concerning influenza B (statewide), hepatitis (Craighead, Benton, Poinsett, Washington and Lafayette counties), pertussis (northwest Arkansas), *Salmonella Newport* (central Arkansas), neonatal sepsis due to group B streptococci (Little Rock), ringworm (Pulaski county) and Rocky Mountain Spotted Fever (Little Rock).

Over 250,000 doses of vaccine were given to children under five years of age in connection with the "Every Child In '74" immunization campaign.

Gonorrhea continued to be the most frequently reported venereal disease. A toll-free hot line (1-800-482-8446) was established to provide information on venereal disease to people anywhere in the state.

There are 72 tuberculosis chest clinics operating in local health departments. Supportive services are given by nine general hospitals

where clinically ill patients may be admitted. Currently, Arkansas ranks seventh in the nation with 19.6 per 100,000 (new tuberculosis cases).

The Arkansas State Cancer Registry processed 3,835 Tumor Registry Abstracts and 8,672 follow-ups during the past fiscal year.

Beginning in fiscal year 1975-1976, the M.E.R.C.I. Project will evolve into the M.E.D.D. Project.

One hundred and twenty-four communities now fluoridate their water supplies. Arkansas ranks 11th in the nation in this preventive measure.

During the year, 147,803,544 pounds of red meat received the "Arkansas State Inspected and Passed" mark. A total of 92 plants were under continuous inspection and 65 custom slaughtering and/or processing plants under surveillance for sanitation, "Not for Sale" markings, contamination, denaturing of inedible products and record keeping.

A total of 24,000 people received training in Medical Self-Help and CPR.

There were 172,625 pet animals vaccinated for rabies by practicing veterinarians. A total of 3,440 single doses of duck-embryo rabies vaccine was given to animal bite victims.

Five hospitals and one nursing home were completed under P.L. 91-296. The two outstanding achievements were the Warner-Brown Hospital in El Dorado and the Boone County Hospital in Harrison.

Under the licensure program, 216 nursing homes (19,086 beds), 102 general hospitals (11,522 beds), and 16 other type facilities, such as rehabilitation and specific centers, were licensed.

The Medicare Certification Program resulted in 41 non-accredited hospitals, 82 home health agencies and 12 independent laboratories being certified.

Emphasis was placed upon assuring that all nursing homes comply with the Life Safety Codes which assure safety from fire and smoke.

Specimens received from other programs increased the activities in the laboratories. A total of 22,701 specimens for tuberculosis; 2,000 for fungus inspection; 1,837 animal heads for rabies; 20,397 specimens for PKU and 15,931 specimens for sickle cell anemia.

Approximately 132,000 screening tests and an additional 3,800 specific or follow-up tests to

eliminate biological false positives were performed in syphilis serology.

Engineering collected and interpreted 1,416 chemical analyses and 45,434 bacteriological analyses while making 547 inspections of water supplies and sewerage facilities.

The Plumbing Section increased field services by 86 percent, while mileage increased 11 percent. This was possible only because there were more personnel in the field who could spend more time working and less time driving.

Certification of Mobile Home Dealers remained the same as the previous year. The number of seals issued increased 22 percent.

Investigations have been made concerning tick-borne, Rocky Mountain Spotted Fever, other arthropod vectors, and blackbird roost problems throughout Arkansas.

During the year, the Rodent Control Program surveyed 190 blocks, 2,636 residences; distributed 10,500 pounds of rat poisons and disseminated educational information statewide via radio, television, newspapers and pamphlets.

Inspections were made of 44 camps and parks and 125 permits for marine toilets on pleasure craft were issued.

There are 116 installations certified as locations for instruments used to test D.W.I. suspects. There are 981 operators certified to use these instruments.

A total of 496 blood samples were analyzed for alcohol content.

The Childhood Blood Lead Screening Program began operation. The program objective is to screen children under 6 years of age who live in poor housing, as well as those exposed to lead hazards through special local conditions. In Arkansas, 7 percent of the children screened indicated positive or elevated lead levels compared to the national average of 7.9 percent.

Radiological Health included (1) licensing, registration and inspection of users of radioactive material and radiation-producing machines, (2) environmental radiation monitoring of nuclear facilities, (3) emergency response planning and (4) non-ionizing radiation (microwave) studies.

The Pesticide Accident Surveillance System continued to provide information on pesticide protection. This resulted in investigation of approximately 40 poisonings and accidents in-

volving pesticide. Nearly 1,100 participants were added to the System during the past fiscal year. More than 500 clinical and environmental samples were collected to determine if pesticide residues were present.

Pharmacy Services continued to provide all drugs and related medical supplies to local and regional health departments for all Health Department programs. Inspections also were made to assure proper storage, rotation, distribution and information on these drugs.

In Drug Control, 182 investigations involving legitimate handlers of controlled substances were made. Receipts were issued to 534 handlers of controlled substances for drug destruction, making more than 22,000 individual prescriptions accounted for and destroyed. Approximately 95 percent were from nursing homes and hospitals.

It is the intent of the Arkansas Department of Health that quality health care will continue to be available to all Arkansans.

Medical Education Foundation for Arkansas

Robert Watson, M.D., President

The Medical Education Foundation for Arkansas has continued to reflect conscientious stewardship of the funds entrusted to it. Through cautious management, these funds have continued to grow toward a meaningful goal. This is evidenced by a six-year increase in total assets from \$33,000 in 1971 to \$68,000 in 1975. Interest income and memorial contributions have increased from \$1,450 in 1971 to \$4,115 in 1975. All along, your Foundation has followed the plan to "spend a little and save a little," toward eventually building a self-perpetuating fund.

Our annual report was given to Reference Committee No. 2 at our last State meeting. This report was approved as submitted with the recommendation that the Foundation consult with Medical School authorities, the Medical School Committee, the Liaison Committee with the medical students, and representatives of the medical students of the school, and that annual plans be published for the definitive use of these funds. This has been done. Inquiries were sent to twenty-five knowledgeable individuals. The number of responses is evidence of the interest that these inquiries stimulated. Several of those answering inferred that likely

the students themselves might best be qualified to state how these funds might be used.

Specifically, the President of the Senior Class favored a lectureship by visiting professors of national recognition covering some subject common to all student levels. Others proposed an annual lectureship patterned to both the interests of medical students at all levels as well as some tie-in with continuing education for practicing physicians over the state. Other suggestions favored rotation of subject matter of such lectures to deal with the general history of medicine, history of Arkansas medicine, or a rotation from year to year giving the choice of the subject to the various individual departmental divisions of the Medical Center.

The predominant tone of all answers to this inquiry was, in effect, to limit these contributions to money received from interest income or memorial donations, and that the capital funds remain securely invested to provide a perpetuating income for these purposes. Such plans demand time and study.

Arrangements are underway to begin providing funds during the coming school year to be used for one of the above purposes as selected. Plans for such use were presented to and approved by the Council to the Arkansas Medical Society at the February 1 meeting of the Council.

Report of Arkansas Regional Medical Program Ross Fowler, M.D.

Member of Regional Advisory Group

Although the Arkansas Regional Medical Program is not receiving any funds for new programs, it has continued to work with the previously funded programs.

The ARMP has worked with the Health Service Agency and, at the present time, has the four final HSA applications which must, by law, be received and commented on by ARMP.

The future status of the ARMP is uncertain.

Arkansas Regional Medical Program offers its assistance to the Health Service Agency and to programs for improved health care in Arkansas.

Arkansas State Arbitration Commission

H. Austin Grimes, M.D., Chairman

The Arbitration Commission met on one oc-

casional for the purpose of evaluation of a charge that fees were excessive. This was resolved by unanimous decision of the Committee that the fees were excessive and recommendations were that only the current, usual and customary fee be charged.

We had no other complaints or information regarding this case and have not heard anything in the way of follow-up other than the recommendations made. No other cases were brought before the Commission.

Sub-Committee on Liaison With Vocational Rehabilitation

John P. Wood, M.D., Chairman

Members of the Sub-Committee on Liaison with Vocational Rehabilitation met with representatives of the Department of Social and Rehabilitative Services at the Mid-Winter Meeting of the Arkansas Medical Society in December at Little Rock. These representatives included E. Russell Baxter, Commissioner; Young Osborn, Program Specialist of Physical Restorative Services, and Dr. Howard Schwander, Chief Medical Consultant.

The adoption of the new fee schedule this past year, based on the use of the California Relative Value Scale, was discussed. It was felt that this schedule had been generally accepted by physicians of Arkansas as equitable since there were few objections raised by the participating member physicians.

Mr. Baxter again cited the trend from the Federal level to emphasize treatment and rehabilitation of the more seriously handicapped in the State. Mr. Baxter cited the present uncertainty of funding the entire program from the Federal level.

He stated that the recent reduction in the over-all number of employees would not hamper the effectiveness of their present programs.

Dr. Schwander discussed the increasing single unit costs of cardiac rehabilitative procedures.

The continued excellent cooperation between the Society and the Department of Social and Rehabilitative Services was pledged for the coming year.



There's a practical hint
waiting for you in
every exhibit

Find out about
insurance coverage
available to members
of the Society

Exhibits provide a
communication
network — Tune in

Get the latest ideas on
drug therapy from our
pharmaceutical
exhibitors

Want to talk about
investments?

Visit the
exhibits

Exhibits — a worthy
feature of our
educational program

Get the most from the
meeting; see the
exhibits

Something new can be
learned at every exhibit

Our exhibits are the
most representative
in our history

Get the modern ideas
in our exhibits

Want the latest data on
antihistaminics? See
our exhibitors

Get the facts and
background — Visit
exhibits

Something new in
hypertension — See our
exhibitors

EXHIBITS ARE AN IMPORTANT PART OF A CONVENTION

Intermissions provided
for visiting exhibits

Interested in the current
state of antibiotics?
Call our exhibitors

Exhibits contribute to a
successful meeting

Get the story at the
exhibits

What's the latest in
steroids? See our
exhibitors

If your X-ray machine
is an old-timer, see our
X-ray exhibitors

Exhibits constitute a
symposium on
therapeutic progress

Keep abreast of
scientific advancement
— See exhibits

Need help on that
difficult case — See
exhibits

Need new
electrosurgical
equipment? See our
exhibitors

What makes a medical
meeting click?
Visit exhibits

Medical history in the
making — Visit exhibits

What would your
meetings be without
exhibits?

Something new in
hypertension — See our
exhibitors

April, 1976

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Vol. 72 No. 11

FORT SMITH, ARKANSAS

100th ANNUAL SESSION
ARKANSAS MEDICAL SOCIETY
ARLINGTON HOTEL, HOT SPRINGS, APRIL 25-28, 1976

BECOTIN®
Vitamin B Complex

BECOTIN® with VITAMIN C
Vitamin B Complex with Vitamin C

BECOTIN®-T
Vitamin B Complex with Vitamin C, Therapeutic

MI-CEBRIN®
Vitamins-Minerals

MI-CEBRIN T®
Vitamin-Minerals Therapeutic

AND A WIDE VARIETY OF OTHER PHARMACEUTICALS



DISTA PRODUCTS COMPANY
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

400944

LIBRARY
U.C. SAN FRANCISCO

APR 30 1976

Both often



● Predominant psychoneurotic anxiety

● Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

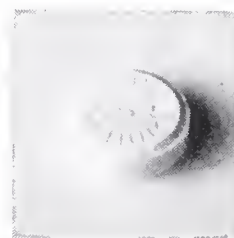
respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent

in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium[®]
(diazepam) [Ⓢ]
2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

THE
JOURNAL OF THE

Arkansas

MEDICAL SOCIETY

Owned by
THE ARKANSAS MEDICAL SOCIETY
And Published Under Direction of the Council

ALFRED KAHN, JR., M.D., Editor
1300 West Sixth Street Little Rock, Arkansas

MR. PAUL C. SCHAEFER, Business Manager
214 North 12th Street Fort Smith, Arkansas

LITTLE ROCK BUSINESS OFFICE
114 E. Second St. Little Rock, Arkansas

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY

T. E. TOWNSEND, President	Pine Bluff
A. S. KOENIG, JR., President-Elect	Fort Smith
ASA A. CROW, First Vice President	Paragould
MAHLON O. MARIS, Second Vice President	Harrison
DONALD L. DUNCAN, Third Vice President	Texarkana
ELVIN SHUFFIELD, Secretary	Little Rock
KENNETH R. DUZAN, Treasurer	El Dorado
AMAIL CHUDY, Speaker,	
House of Delegates	North Little Rock
CHARLES F. WILKINS, JR., Vice Speaker,	
House of Delegates	Russellville
ALFRED KAHN, JR., Journal Editor	Little Rock
C. C. LONG, Delegate to AMA	Fort Smith
PURCELL SMITH, Delegate to AMA	Little Rock
JOE VERSER, Alternate Delegate to AMA	Harrisburg
T. E. TOWNSEND, Alternate Delegate to AMA	Pine Bluff
MR. PAUL C. SCHAEFER, Executive Vice President,	
P. O. Box 1208	Fort Smith

COUNCILORS

First District	JOHN B. KIRKLEY	Jonesboro
	•ELDON FAIRLEY	Osceola
Second District	JOHN E. BELL	Searcy
	•PAUL GRAY	Batesville
Third District	•L. J. P. BELL	Helena
	FRED C. INMAN, JR.	Carlisle
Fourth District	JOHN P. BURGE	Lake Village
	•RAYMOND IRWIN	Pine Bluff
Fifth District	•J. B. JAMESON, JR.	Camden
	JOHN H. MOORE	El Dorado
Sixth District	•C. LYNN HARRIS	Hope
	A. E. ANDREWS	Texarkana
Seventh District	•ROBERT F. McCRARY	Hot Springs
	CURTIS CLARK	Sheridan
Eighth District	WILLIAM S. ORR, JR.	Little Rock
	•W. PAYTON KOLB	Little Rock
Ninth District	•HENRY V. KIRBY	Harrison
	MORRIS M. HENRY	Fayetteville
Tenth District	KEMAL KUTAIT	Fort Smith
	•C. C. LONG	Fort Smith
*Senior Councilor		

The Advertising policy of this JOURNAL is governed by the PRINCIPLES OF ADVERTISING of the State Medical Journal Advertising Bureau, Inc., by the Advertising Committee of the Bureau and by the Council of the Arkansas Medical Society.

EXCLUSIVE PUBLICATION—Articles are accepted for publication on the condition that they are contributed solely to this JOURNAL.

COPYRIGHT 1976—By the JOURNAL of the Arkansas Medical Society.

NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

SCIENTIFIC ARTICLES

Tympanometry: An Objective Method of Diagnosing Middle Ear Disease	453
James Y. Suen, M.D. and Ray Melton, M.S.	

An Early Description of a Congenital Anomaly: "A Foetal Monstrosity"	457
Ronald D. Greenwood, M.D.	

Ruptured Abdominal Aortic Aneurysms	458
R. Lewis Crow, M.D.	

FEATURES

Office Orthopaedics: "The Unstable Knee of the Young Athlete"	461
Kenneth G. Jones, M.D.	

EKG of the Month	464
Malcolm B. Pearce, M.D.	

Toxicology Update: "Treating Narcotic Overdose: Nalorphine, Levallorphan, or Naloxone?"	465
Danny L. Lattin, Ph.D.	

Arkansas Public Health At a Glance: "Cooperative Health Manpower Statistic Systems"	468
Werner Haney	

Guest Editorial: "Prevention of Hepatitis B: A Favorable Turn of Events"	469
Charles M. Nolan, M.D.	

Medicine in the News	470
----------------------	-----

Things to Come	474
----------------	-----

Book Review	474
Alfred Kahn, Jr., M.D.	

Personal and News Items	475
-------------------------	-----

New Members	476
-------------	-----

Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72901. Published monthly under direction of the Council, Arkansas Medical Society, Volume 72, No. 11. Subscription \$2.00 a year. Single copies 50 cents. Entered as second class matter, May 1, 1955, in the post office at Little Rock, Arkansas, under the Act of Congress of March, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 1, 1918. Second-class postage paid at Little Rock, Arkansas.

Tympanometry: An Objective Method of Diagnosing Middle Ear Disease

James Y. Suen, M.D.* and Ray Melton, M.S.**

Introduction

With the technical prolificacy of our day and time one should keep informed of the new techniques available. A more objective means of detecting effusions of the middle ear as well as other middle ear pathologies is now available. It is a simple test and is as valuable as an audiogram. It should complement the audiogram and not replace it. This technique is called "tympanometry."^{4, 8, 9, 11}

The purpose of this paper is threefold: (1) To inform the physician of the usefulness and avail-

ability of tympanometry; (2) To discuss tympanometry as one aspect of impedance audiometry; and (3) To present our data on tympanometry in diagnosing conductive hearing losses.

Description

By definition impedance audiometry is an objective means of assessing the integrity and function of the peripheral auditory mechanism.^{4, 8, 9, 11} The electroacoustic impedance meter is utilized in determining existing middle ear pressures, tympanic membrane mobility, eustachian tube function, continuity and mobility of the middle ear ossicles, acoustic reflex thresholds, and nonorganic hearing loss. The electroacoustic impedance technique is based on the principle that sound pressure level is a function of closed cavity volume.^{9, 10} Figure 1 is a diagram of the electroacoustic impedance apparatus. An air-tight seal is obtained with a small probe inserted into the external auditory canal. Attached to the probe are three components of the impedance meter: (1) The probe

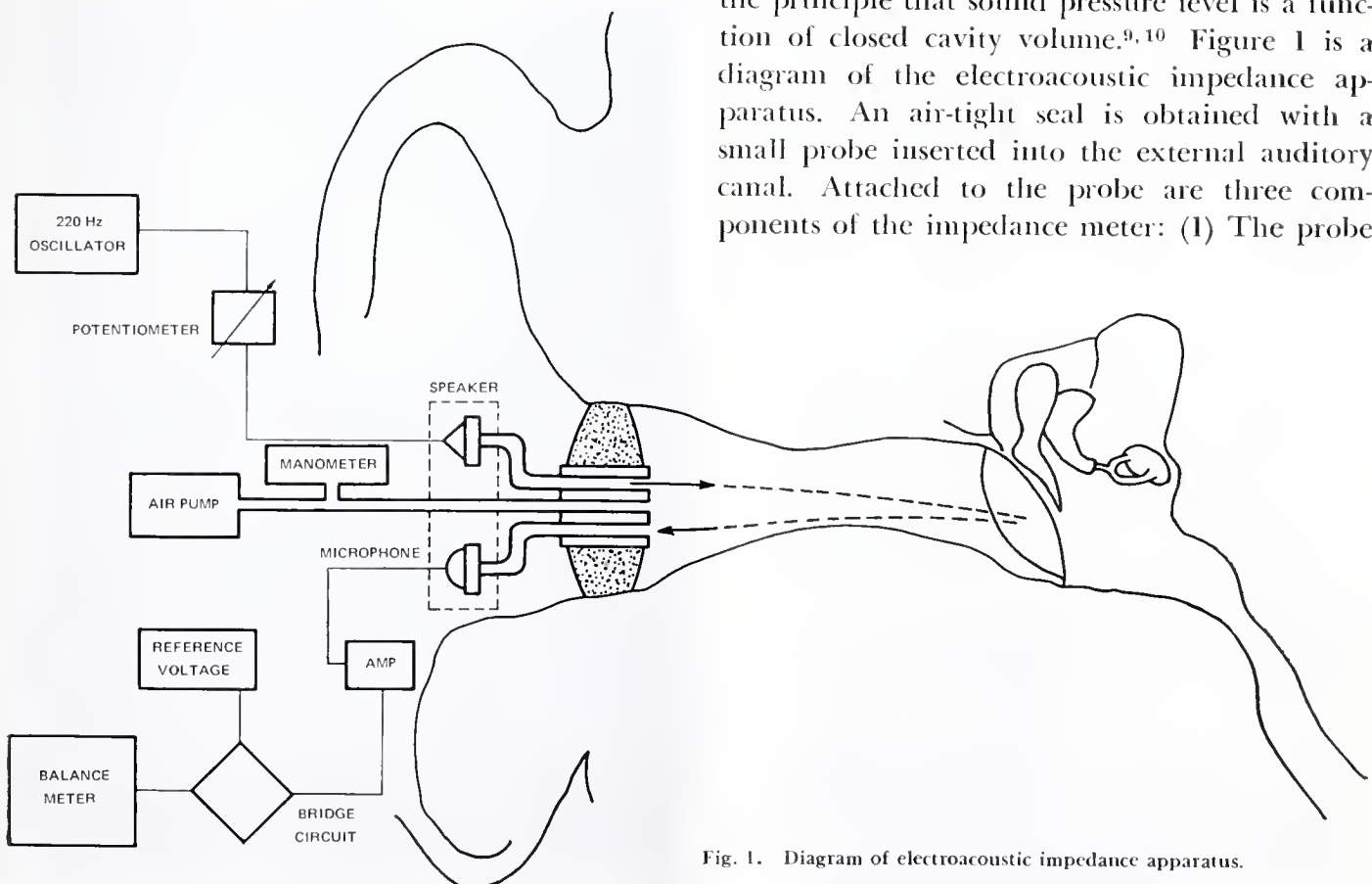


Fig. 1. Diagram of electroacoustic impedance apparatus.

tone source — 220 Hz tone oscillatory with a potentiometer to regulate the intensity, (2) An air pump with a manometer for indicating the amount of air pressure in units of mm of water (0 — atmospheric pressure); and (3) The bridge circuit which compares the reflector probe tone to a known voltage through the balance meter.^{4, 8, 9, 10}

In doing tympanometry the mobility (compliance) of the ear drum and ossicular chain is found by varying the air pressure in the ear canal and measuring the amount of sound reflected from the ear drum. A high amount of reflected energy is measured when the middle ear system is stiff as in such pathological conditions as serous otitis, ossicular fixation, or cholesteatoma.^{2, 3, 8} On the other extreme, a very thin tympanic membrane or an ossicular disruption allows much of the probe tone energy to be absorbed and very little sound is reflected back into the external canal. Tympanograms can be plotted based in these measurements. Figure 2 illustrates the different tympanogram types as described by Jerger.

Tympanometry is only one measurement of impedance audiometry. Static compliance, and

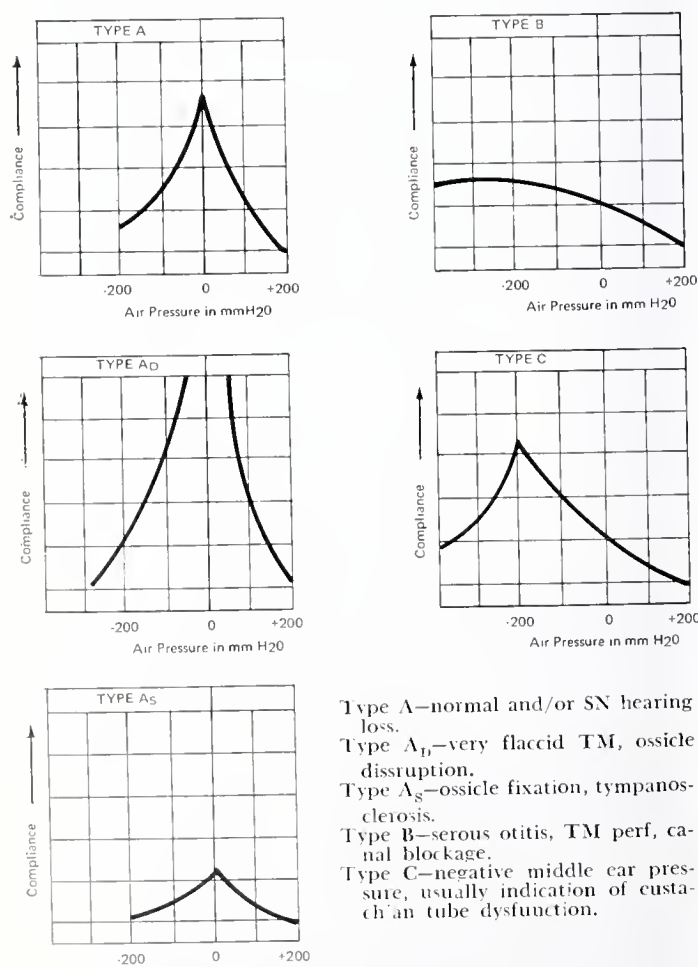


Fig. 2. Five classical tympanometric types.

acoustic reflex threshold measurements can also be obtained and provide other information useful in differentiating the type and degree of hearing loss.^{9, 10} The diagnostic picture is much more complete when results of all three measures are considered together, even though significant information can be obtained from the separate measures.

Usefulness

Tympanometry has several advantages over conventional pure tone audiometry which is used in screening hearing losses. The first and biggest advantage being the "objectivity" of the test procedure.^{2, 10} Pure tone testing requires an overt subjective response from the patient. Tympanometry simply requires the patient to sit passively while the impedance meter indicates the impedance changes of the ear. Since the bulk of middle ear pathology is found in children, and since the child's response reliability to pure tones on an audiogram is questionable in many instances, the objectivity of tympanometry is extremely useful in providing accurate information.^{2, 12} Then there are ear disorders with minimal hearing loss which can be diagnosed with tympanometry.^{4, 6} There is also the advantage of eliminating the need for an expensive sound-proof booth. Because one is not measuring exact hearing sensitivity with tympanometry there is no need for such a controlled environment as is necessary in pure tone testing. Lescouffair in a recent article (1975) has demonstrated how ineffective present day screening audiograms are in public schools for discovering ear disease. Tympanometry would be more effective for this use. The trend seems to be headed toward a combination of tympanometry and pure tone audiometric screening to discover the subtle ear disease as well as the more obvious hearing loss.

Even though tympanometry is a very useful diagnostic tool in the hands of a trained person it also has some disadvantages. The primary limitations is that the test cannot be adequately completed if the patient is talking, crying, moving his head, or a combination of these.¹⁰ One cannot obtain proper middle ear measure with impedance on an ear with external canal blockage, i.e., impacted cerumen or foreign body. Occasionally, there is the external canal that is shaped in a manner that an air tight seal cannot be obtained, thus not allowing for any meas-

urements to be taken. Also, in doing strictly tympanometry one is not able to determine the degree of sensorineural involvement, whereas, the other two measurements of impedance audiometry would help. It has been unusual for us not to be able to obtain tympanometry on children except those under one year of age.

Impedance testing has many uses other than tympanometry. One use is checking for eustachian tube function which is important when considering candidates for tympanoplasty.^{9,10,13} Another capability is to assess cochlear function for the presence of sensory damage.^{7,9,10} Also, one can determine to some extent a retrocochlear pathology.¹ If a person is suspected of feigning a hearing loss, acoustic reflex measures using impedance can help in a more accurate diagnosis.⁵

The equipment for performing impedance audiometry is compact and portable. The average cost of a basic unit is as low as \$2,000 (as of January, 1975) and up, depending on how elaborate a system one desires. Figure 3 shows the impedance bridge utilized at Arkansas Children's Hospital Audiology/ENT Clinic. Figure 4 illustrates how the head gear is worn with the probe inserted in the ear.



Figure 3.



Figure 4.

Clinical and Surgical Findings

The following data represents the number of ears seen over a six-month period at Arkansas Children's Hospital ENT Clinic, Little Rock. The subjects ranged in age from nine months to 15 years with a mean age of 4.5 years. An American Electromedics Model 81 Impedance bridge was used for tympanometry with manual plotting of the tympanogram. Table I shows the type of tympanogram obtained with the surgical findings. A total of fifty-four ears were tested and underwent myringotomies. A tympanogram was obtained on 51 of these ears prior to surgery. Tympanometry predicted middle ear fluid in 41 ears. Surgery confirmed middle ear fluid findings in 38 (92%) of the 41 cases. In ten cases where tympanograms did not predict fluid but diagnostic myringotomies performed, none were found to have fluid. It should be noted that only these three ears out of the 54 (5.5%) could not be tested because the child was uncooperative or a proper ear probe fit could not be obtained.

Summary

Impedance audiometry is a relatively new diagnostic instrument which is now available for assessing hearing problems. The tympanogram is valuable in diagnosing middle ear pathology,

such as, serous fluid. In combination with pure tone audiometry and examinations, hearing losses can be very accurately assessed. It is especially useful in children too small to test with pure tone audiometry and does not require a subjective response from the patient.

Our experience confirms the accuracy of the tympanograms in diagnosing the presence of middle ear fluid. The other two measurements which can be obtained with impedance audiometry are static compliance and acoustic reflex threshold. These two measurements provide additional information useful in differentiating types of hearing losses. The availability, ease of testing, accuracy and versatility of impedance audiometry provides Otolaryngologists and Audiologists with a valuable diagnostic tool.

Table 1.
 Tympanogram Types Compared to
 Surgical Findings

Tympanogram Type	# Ears	Myringotomy	
		Fluid Found	No Fluid
B (suspected serous otitis) A &/or C (Serous otitis not suspected) Unable to Test (uncooperative or poor probe fit)	41	39 (92%)	3
	10	0	10
	3	3	0

REFERENCES

1. Anderson, H., Barr, B., and Wedengerg, E.: The early

detection of acoustic tumors by the stapedial reflex test, in *Sensorineural Hearing Loss*, Wolstenholme and Knight (Eds), CIBA, London, J & A Churchill, 1970.

2. Brooks, D. N.: "An Objective Method of Detecting Fluid in the Middle Ear," *Int. Aud.*, 7:p280, 1968.

3. Brooks, D. N.: "The Use of the Electro-Acoustic Impedance Bridge in the Assessment of Middle Ear Functions," *Int. Aud.*, 8:563-569, 1968.

4. Jerger, J.: "Clinical Experiences with Impedance Audiometry," *Arch Otolaryng.*, 92:311-324, 1970.

5. Lamb, L., and Peterson, J.: "Middle Ear Reflex Measurements in Pseudohypacusis," *JSHD*, 32:46-51, 1967.

6. Lescouflair, G.: "Critical View on Audiometric Screening in School," *Arch Otolaryng.*, 101:469-473, Aug. 1975.

7. Liden, G.: The stapedius muscle reflex used as an objective recruitment test: a clinical and experimental study, in *Sensorineural Hearing Loss*, Wolstenholme and Knight (Eds), CIBA, London, J & A Churchill, 1970.

8. Liden, et al.: "Tympanometry," *Arch Otolaryng.*, 92: 248-257, Sept. 1970.

9. Lilly, D. J.: Acoustic Impedance at the Tympanic Membrane, in *Handbook of Clinical Audiology*, J. Katz (Ed), Baltimore: Williams & Wilkins, 1972.

10. Northern, J., and Downs, M.: *Hearing in Children*, Baltimore: Williams & Wilkins, 173-210, 1974.

11. Peterson, J., and Liden, G.: "Tympanometry in Human Temporal Bones," *Arch Otolaryng.*, 92:258-266, Sept. 1970.

12. Robertson, E. D., Peterson, J. L., and Lamb, L. E.: "Relative Impedance Measurements in Young Children," *Arch Otolaryng.*, 88:162-168, 1968.

13. Terkildsen, K., and Thomsen, K.: "The Influence of Pressure Variations on the Impedance of the Human Ear Drum," *J Laryng.*, 73:409-418, 1959.



An Early Description of a Congenital Anomaly: "A Foetal Monstrosity"

Ronald D. Greenwood, M.D.*

Many of the serious anomalies seen in the last century were poorly understood. The reaction to the abnormalities and the suggestions regarding future pregnancies were usually negative. Scientific treatment was lacking. This report¹ by Dr. H. C. Dunnivant of Osceola, Arkansas, is an early notation of *holocardius acephalus*.²

"This monstrosity differs from any I have seen or noticed accounts of, in the fact that nature has entirely failed to develop a head and one arm, while the effort toward the evolution of the upper extremity has been an extremely feeble one.

I was called on the twentieth of February last at 9 A.M. to see Mrs. H., a white woman about 23 years of age. She had just reached Osceola in company with her husband, from some distance down the river. Her face was flushed, and she complained of an intense pain in the region of the left ovary. From the latter, my patient had suffered for a number of weeks. On examination, I found her five and a half or six months advanced in utero-gestation.

I prescribed an anodyne with rest, in bed, and went home. In about three hours I was again hastily summoned and on arrival found a dead child about six months advanced (from appearances) had been born. Laying it aside and searching for the secundines I discovered another child. After a little delay it also was expelled. Inspection revealed a deformity that I had never before seen or read of. There was no sign of

a head and none of a right arm. A short stump with four fingers represented the left arm. The lower extremities were well formed but lapped from the knees, inwardly, with only four toes on one foot and five on the other, one of the latter being on the bottom of the foot. Where the sternum should have been there was an opening about two and a half inches in width at its upper part tapering below to a point. This opening exposed the lungs, showing them to be but feebly formed. The heart was small and quite imperfect. As before indicated, there was no sign of brain tissue."

This was the third pregnancy of two normal parents. The first child was then seven years old and was normal; the second child was three years old and was an "idiot." Both of these children were females. This third pregnancy had produced two males. The mother had a rapid recovery. Dr. Dunnivant provided a drawing of the "monster." He also included his advice regarding future pregnancies:

"There is such a want of a correct correlation of Nature's laws in this couple that I have advised them never again to allow conception to take place."

REFERENCES

1. Dunnivant, H. C.: *Foetal Monstrosity-Acephalobrachus*. *Memphis Medical Monthly*, 9:214-15, 1889.
2. Potter, E. H.: *Pathology of the Fetus and the Newborn*, Chicago, Year Book, 1952, p. 182-4.

ACKNOWLEDGMENT

I am indebted to the Francis A. Countway Library of Medicine, Harvard Medical School, Boston, for allowing the use of historical materials.

*The Children's Hospital Medical Center, 300 Longwood Avenue, Boston, Massachusetts 02115.



Ruptured Abdominal Aortic Aneurysms

R. Lewis Crow, M.D.*

The elective resection and graft replacement of abdominal aortic aneurysms has become quite standardized. The mortality rate should be no higher than for any other major abdominal procedure. In my own series of forty-two elective resections there have been no deaths. Ruptured aneurysms, on the other hand, carry a significantly higher mortality rate.

Most of the patients are over sixty and have generalized atherosclerotic disease involving many organ systems. Rupture of the aneurysm, and the shock which ensues, opens a Pandora's Box of potential problems. The poor coronary, cerebral, and renal perfusion during the period of shock is undoubtedly the cause of the problems which may lead to patient death.

During the past two years, I have operated on a total of ten patients with ruptured abdominal aortic aneurysms. Two patients died during the postoperative period. The other eight patients survived and are doing well. Patients with edematous aneurysms and impending rupture are not included. Several such patients were resected on a semi-emergency basis and did well. Since they were not in shock, and had no retroperitoneal hemorrhage, they were excluded. Two patients with ruptured false aneurysms were included, and their clinical picture prior to surgery is of interest.

1. C. E. is a 62-year-old white male. An abdominal aortic aneurysm had been resected elsewhere several years before. He was admitted to the coronary care unit on December 18, 1973. Upper abdominal and lower substernal pain were the presenting symptoms. The pain was not severe and he was in stable condition. I was consulted the following morning when hypotension and abdominal tenderness were present. No mass was palpable. Within five minutes, profound shock and cardiac arrest occurred. External cardiac massage was given for twenty to thirty minutes while an operative room was cleared. Uncrossmatched type specific blood, Sodium Bicarbonate, Mannitol, and IV fluids were given during this time. Electrical defibrillation was necessary several times. A varying

supraventricular cardiac rhythm was established by the time he was taken to the operating room, but no peripheral blood pressure was obtainable. He was deeply comatose and had fixed dilated pupils. At surgery several units of blood were present in the peritoneal cavity. A large unruptured true aneurysm arising at the level of the renal arteries and extending down to the proximal aortic graft anastomosis was present. The proximal anastomosis was separated and a ruptured false aneurysm was present. A second false aneurysm was present between the right limb of the bifurcation graft and the right column iliac artery. It was not ruptured. The new aneurysm and graft were removed, and a bifurcated dacron graft used for replacement. Several hours after surgery the patient was alert and had no neurologic deficit. He is now 16 months post-op and is doing well.

There are several points I would like to make regarding this case. When unexplained abdominal or back pain occurs in a patient with an aortic graft, a leaking false aneurysm should be suspected. The retroperitoneal tissue is usually very adherent to the graft, and therefore a retroperitoneal hematoma is unlikely. Most of the hemorrhage will be into the peritoneal cavity and a pulsatile mass will frequently not be present. The diagnosis therefore can be a difficult one to make. The second point is true of all ruptured aneurysms. The resuscitation efforts should continue as long as necessary, including external cardiac massage while the abdomen is being opened and aorta clamped. The resuscitation, however, should not delay the surgery. Blood and fluid replacement can be done in the operating room, and will generally be ineffective until the aorta above the rupture is clamped. The last point is not to be misled by fixed dilated pupils immediately following resuscitation. This finding by itself is not a sign of permanent central nervous system damage.

The second patient with a ruptured false aneurysm had also been resected elsewhere.

2. C. F. is a 74-year-old white male who was admitted to the intensive care unit on July 18, 1973. Severe mid abdominal pain occurred on the morning of admission and was followed by

*Suite 600, Medical Towers Building, 9601 Lile Drive, Little Rock, Ark. 72205.

massive hematemesis. The blood contained laminated, organized clot from the aneurysm. The diagnosis of ruptured aneurysm into the duodenum was made by the admitting internist. The patient's stay in the I.C.U. was brief. The massive hematemesis continued and he was in shock when taken to surgery. The presumptive diagnosis proved correct. The false aneurysm at the proximal aortic graft anastomosis had ruptured into the distal duodenum. The old graft and a segment of aorta above the graft were removed and a dacron tube graft used for replacement. The duodenum was repaired. The patient is doing well 21 months following surgery.

It is my feeling that the false aneurysm complication is an avoidable one. In both of these cases it appeared that the graft had not been sutured up inside the aorta so that a good cuff of aortic tissue was present around the anastomosis. In addition, as much retroperitoneal tissue as possible should be sutured over the proximal anastomosis to protect the duodenum.

A third case in the series was unusual in that the surgery was performed in a smaller community hospital.

3. G. M. is a 60-year-old white male who was admitted to Stuttgart Memorial Hospital on October 16, 1974. He was in profound shock on admission. The referring diagnosis was possible myocardial infarction. A pulsatile abdominal aortic aneurysm was present. The diagnosis of ruptured abdominal aortic aneurysm was therefore made, and the patient taken promptly to surgery. The abdomen was opened and hemorrhage controlled with pressure on the retroperitoneal hematoma with laparotomy pads. Eight units of blood and liberal intravenous fluids were given prior to resection. A satisfactory blood pressure and urinary output were re-established. Even though the resection was delayed for forty-five minutes, the hemorrhage had been controlled and volume replaced. In addition to the ruptured abdominal aortic aneurysm, bilateral unruptured iliac artery aneurysms were present. All were resected in the standard way and a bifurcation dacron graft used for replacement. Quite obviously, salvage in this case would not have been possible without the direct approach taken by Dr. Paul Millar and his associates in Stuttgart prior to my arrival.

The remaining seven cases were the usual type of ruptured abdominal aortic aneurysm. All were in shock. All had large retroperitoneal hematomas and all but one had free peritoneal blood. Several patients had associated iliac artery aneurysms which were also removed.

The two deaths in the series were not unexpected. One was a frail eighty-year-old female who presented in the emergency room with a markedly distended pulsatile abdomen and no blood pressure. She somehow survived resection and graft replacement of the ruptured aneurysm, but died twenty-four hours later of ventricular fibrillation. The other was a 67-year-old male. The diagnosis was made at another hospital in the southern part of the state. No blood pressure was obtainable for one hour and forty-five minutes prior to reaching our emergency room. The patient was kept alive by blood which was administered by the nurse who accompanied him in the ambulance. Approximately thirty minutes after arrival, the aorta was clamped and blood pressure restored. His total time of zero peripheral blood pressure was therefore well over two hours. He remained hypotensive and almost aneuric postoperatively, and died seven days later. His grave condition prevented hemodialysis.

Discussion

If an acceptable salvage rate is to be obtained in treating this catastrophic disease, it is imperative that the diagnosis be suspected promptly. In most of my cases the internist, surgeon, or family physician did just that. I am sure that the eighty percent survival rate in this series is due to the relatively short period of time that most of the patients were in severe shock. The retroperitoneal tissue will tamponade the hemorrhage for varying lengths of time. If the diagnosis is made early in the course of the illness, there is usually ample time to get the patient to the operating room.

Surgery was delayed in several patients due to difficulty suspecting the diagnosis. Two patients were seen by the emergency room resident complaining of back pain. They were given muscle relaxants and sent home. Fortunately, their retroperitoneal tissue was an effective temporary deterrent to hemorrhage. They returned to the emergency room due to increasing pain and received the proper surgical treatment. One

of them did have a cardiac arrest just after returning to the hospital but was resuscitated by external cardiac massage and appropriate drugs and IV fluids. One patient is 10 months and the other 4 months post resection and graft replacement. They are both doing well. Both are large men, and therefore difficult to examine. When back pain or abdominal pain is present in such a patient, a lateral x-ray of the abdomen using the same x-ray technique as for lumbar vertebra films will frequently establish the diagnosis of an aneurysm. The film will reveal the calcium in the anterior and posterior

walls of the aneurysm.

Once the diagnosis is made the patient should be taken directly to the operating room. Shaving the abdomen in some other part of the hospital, waiting for complete cross matching of blood, treating arrhythmias, etc., are delaying maneuvers which decrease the chance of survival.

Our 80% survival with this disease during the past two years has been a team effort. The expertise of the anesthesia department in treating the multiple problems which arise during the surgical procedure has certainly been a big factor in patient salvage.





Office Orthopaedics

The Unstable Knee of the Young Athlete

Kenneth G. Jones, M.D.*

During the past few decades, it has become increasingly evident that the initial treating physician will play the dominant role in the subsequent rehabilitation of the maimed hand. The burden of responsibility assumed by the first physician to evaluate the injured young knee, which subsequently proves to be unstable as a consequence of ligamentous injury, is equally as great. It is appreciated that the majority of these injuries are a product of the athletic environment of youth. The teenager who is permitted, and in some instances pushed, to continue his athletic endeavors on an unstable knee will, as a rule, have an altogether different system of priorities one or two decades later. Too, the young knee which in the beginning is only unstable, will have undergone significant attrition during this interval if left uncorrected. The extent of degeneration may be directly proportional to the extent of instability of the joint and to the future stresses applied. Even the patient's routine daily activity, without the added stress of athletics, may be sufficient to precipitate extensive deterioration of the articulation culminating in a disabling degenerative arthritic process. These changes are inevitable because the instability in the articulation produces a mortar-pestle effect; the tibia acts as a mortar while the femur grinds like a pestle. With this view, it is evident that all structures in or about the unstable knee are subject to an irritation as a consequence of a persistent abnormal grinding.

Even those knees which did not suffer an ini-

tial bony injury or damage to the articular cartilage, as in most instances, will in time demonstrate significant and often disabling alterations of these structures. Again, depending on the extent of the relaxation and the stresses applied, changes may be minimal or as extensive as an avulsion or wearing away of large areas of the articular cartilage from the femur, the patella, and even the tibial condyles. Marginal, extra-cartilaginous but intra-articular osteophytes of varying degrees of development are frequently encountered. One of the most striking and tragic findings at surgery in the long-standing unstable knee is the degree of destruction of one or both menisci secondary to grinding over a long period of time. Literally, they can be chewed up. At this stage, these structures may resemble mopheads; an end product of instability. Fragments from these structures and from defects occurring in the articular cartilages are frequently found displaced into the joint and thereby may produce locking when sufficiently large.

It must be evident that as these changes increase, the initial instability is further enhanced by progressive narrowing of the joint as a consequence of the articular cartilage being absorbed and chronic irritation of the supporting soft tissues of the knee. A chronic proliferative synovitis develops. On occasions pannus creeps onto articular cartilage. Synovitis is always associated with some degree of excess synovial fluid formation. Chronic synovitis may be further complicated by recurrent intra-articular bleeding. The increased intra-articular fluid is usually

*Little Rock Orthopedic Clinic, P.A., Post Office Box 5270, Little Rock, Arkansas 72205.

pathological in structure as well as quantity. It should be appreciated that the abnormal joint hydraulics associated with chronic intra-articular swelling along with the intra-articular pain experienced are responsible for the disuse atrophy frequently encountered in the muscles that support and move this abnormal knee. Chronic weakness of the flexor and extensor mechanisms which move, and to some degree support, the knee contribute to further relaxation of the joint thereby enhancing the environment for intra-articular attrition. Because of the youth of this group of patients at the time of injury, the examining physician's responsibility is doubly great. He must not permit himself to be responsive to the wishes of the patient, the parents, or the coaching staff as regards his recommendation to future activities of the young player. The ultimate best interest of the patient is his primary responsibility. He is obligated to acquaint interested parties with the fact that the knee is unstable and the inevitable consequences of applying stress in excess of the tolerance (accommodation) of the abnormal articulation. Since all stresses applied to an unstable knee will add to the process of attrition, it is evident that strenuous athletics must to some degree stimulate and expedite the process. Also, the injured athlete is more vulnerable to additional injuries.

Frequently, the physician is asked by the patient, the family, and/or the coaching staff to permit the youngster to return to athletics. In this instance that which is desired is that the physician assume the responsibility for further damage to the knee, or more specifically that he relieve the requesting parties of responsibility. This is a burden the thoughtful physician can ill afford to assume. The physician who recognizes or even suspects instability in the knee of a young athlete will meet this challenge by informing pressuring parties: "It is true that the athlete 'can' play, at least for a while. It is equally true that he 'may' if he desires to do so and is given permission by the parents and the coaching staff, but it is also equally true that he 'cannot' play on the knee his physician is responsible for." This sobering designation of responsibility will usually be followed by a course of action the physician knows to be physiologically proper under the unfortunate circumstances which exist. Determined athletes will

often continue with athletics. In the case of professional athletes they not only sell skills, they often knowingly sell their health. The mature professional athlete must also be made aware of the nature of the problem and the treatment alternatives available to him. However, in this instance the physician is neither privileged nor obligated to persuade the patient to choose a specific course of action. The professional should understand what the inevitable consequences of his decision will be. Knowing this, he may choose to continue to play. But less determined players, such as the high school and intramural athletes who constitute the majority of patients with unstable knees, will usually choose to avoid unnecessary stressful activities once they understand the gravity of the problem.

Recognition of the unstable knee depends, as is so often the case in medical diagnosis, on a high degree of suspicion in the mind of the physician. A history of application of a significant abnormal stress should be elicited. In the acute stage, pain is almost always the major complaint. Some swelling will be evident. If the tear of soft tissues is extensive, bleeding with rapid joint distension may occur. If the damage is limited, bleeding may be limited, and swelling, due to hemorrhage or to the accumulation of synovial fluid, may take place over hours or even days rather than in minutes. Rapid distension of a joint following trauma must be secondary to a hemorrhage into the joint which follows tearing of soft tissues when the radiograms fail to demonstrate a bony injury. However, the surgeon should keep in mind that routine radiograms may also be negative in the presence of a slipped epiphysis or subluxation or even a dislocation of the joint which reduced spontaneously or by Samaritan intervention prior to that examination. A meaningful evaluation in the presence of muscle spasm, pain, and marked swelling is often difficult but must be made. Examination under anesthesia may prove beneficial. Aspiration of the knee under sterile conditions can be helpful in relieving pain in the distended joint. It will also permit a more revealing palpation of the joint and a more accurate determination of response of the ligaments to stresses applied by the examiner. It should be noted, however, that aspiration potentially exposes the joint to infection. For this reason, when resorted to, it must be accomplished

under a proper sterile technique. Though plain radiograms are negative, stress films may be revealing. Soft tissue swelling and abnormal stress films may assist to substantiate the clinical impression of instability.

Arthrography and arthroscopy, which are often useful adjuncts to the clinical diagnosis in the chronic knee, have a more minor role in the

acutely injured knee.

The treatment indicated may be surgical or non-surgical depending on the extent of the damage, when the diagnosis of instability is made, and the patient's demands.

The initial examining physician's responsibility is truly great.

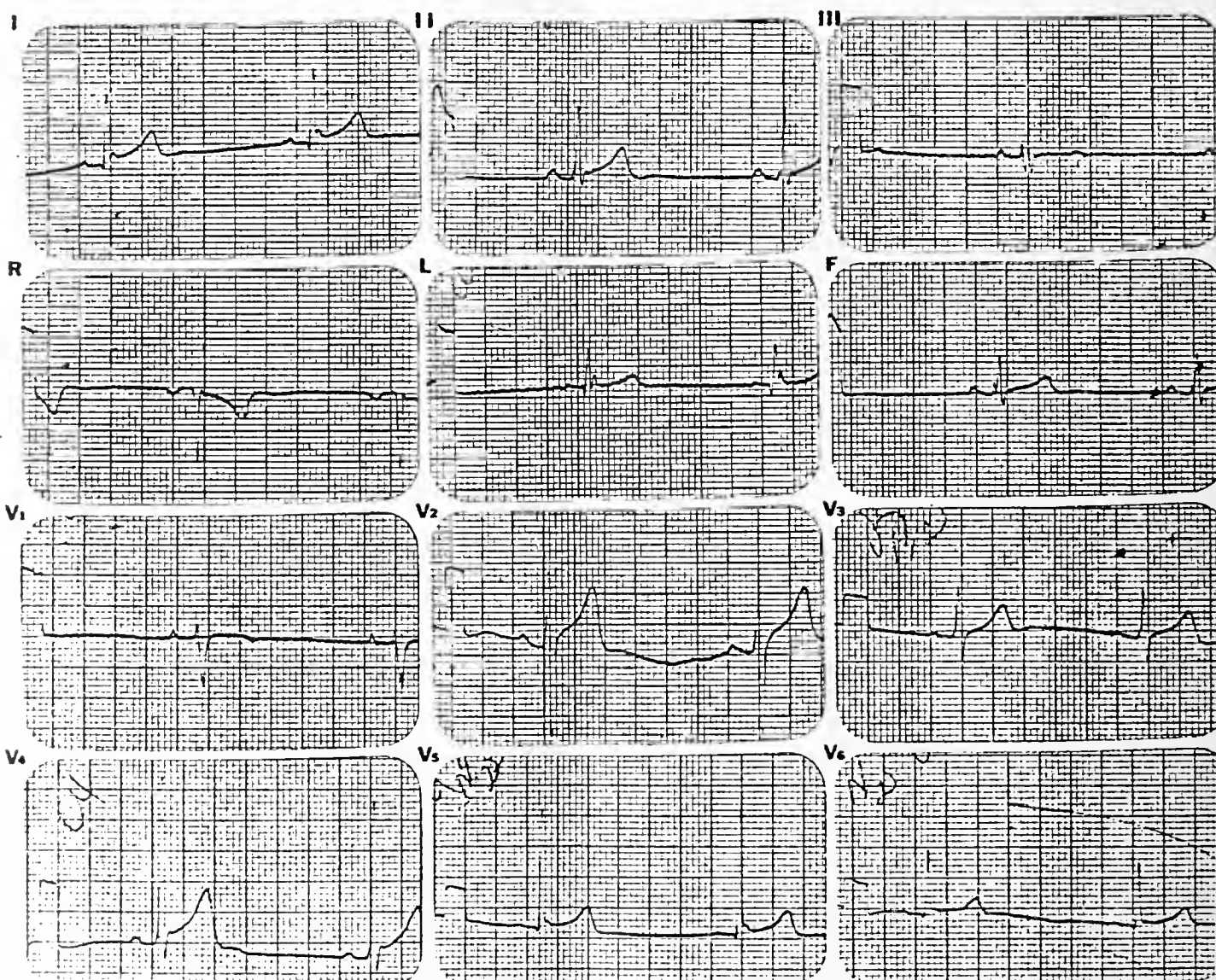




The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 473)

ECG is from an 18-year-old black male who presented with symptoms of left sided sharp chest pain.



Malcolm B. Pearce, M.D.
Associate Professor of Medicine
University of Arkansas for Medical Sciences
Little Rock, Arkansas 72201

Toxicology Update

from the Arkansas poison control—
drug information center

Emergency poison or drug information for
health professionals only.

Pulaski County: 666-5532 • WATS: 1-800-482-8948

Treating Narcotic Overdose: Nalorphine, Levallorphan, Or Naloxone?

Danny L. Lattin, Ph.D.*

Many times every year poison control centers and hospital emergency rooms are contacted regarding acute overdose, either accidental or intentional, of narcotic analgesics. The physician, in turn, is confronted with the problem of selecting the optimum mode of therapy for a potentially life-threatening situation.

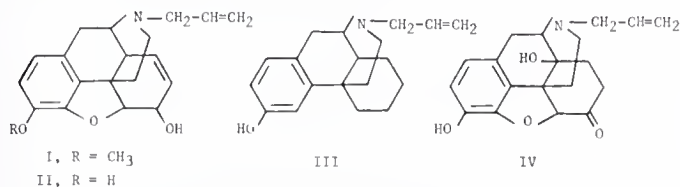
Since the discovery of N-allylnormorphine (nalorphine, Nalline®) in 1941, physicians have had at their disposal very potent, specific narcotic antagonists. These agents are capable of reversing the severe respiratory depression resulting from acute narcotic analgesic toxicity. The narcotic antagonists are also quite useful post-operatively to reverse the respiratory depressant effects of narcotic analgesics, and are administered to newborn infants to reverse respiratory depression resulting from the administration of narcotic analgesics to the mother.

There are three narcotic antagonists from which to choose; these are nalorphine (Nalline®), levallorphan (Lorfan®), and naloxone (Narcan®). All three drugs are narcotic antagonists, but the pharmacological actions of nalorphine and levallorphan are quite different from those of naloxone. These differences become quite important when a physician must decide which agent to use.

The development of narcotic antagonists began in 1914 when Pohl¹ reported that N-allylnorcodeine (I) would reverse morphine-induced respiratory depression in animals. This observation wasn't further explored until 1941 when McCawley and co-workers² synthesized N-

allylnormorphine (II). Nalorphine was found to be a very potent, specific antagonist of most of the effects of morphine. Clinical studies of nalorphine in man demonstrated that while nalorphine would antagonize the effects of morphine, it also possessed morphine-like action. Specifically, nalorphine possesses analgesic activity equivalent to morphine on a mg-for-mg basis and also produces respiratory depression.³ Nalorphine, then, has both agonist and antagonist effects and is considered to be a *partial agonist*.

A number of other narcotic antagonists have been synthesized; of these, however, only levallorphan (III) and naloxone (IV) are available for use in the United States.



Levallorphan, like nalorphine, is a partial agonist. Naloxone is the most recent of the narcotic antagonists and is a *pure antagonist*; it reverses the effects of narcotic analgesics without producing agonistic actions such as analgesia, respiratory depression, or pupillary constriction.⁴

Pharmacology of Nalorphine and Levallorphan^{5,6}

Nalorphine and levallorphan, both partial agonists, have almost identical pharmacological actions. Both agents reverse respiratory depression produced by narcotic analgesics and will produce withdrawal symptoms in narcotic-dependent individuals. When given in the absence

*Associate Professor of Medicinal Chemistry, College of Pharmacy, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72201.

of narcotic analgesics, however, both nalorphine and levallorphan afford very definite morphine-like effects. These agents produce analgesia, respiratory depression, pupillary constriction, and a physical dependence following chronic administration. It should be noted, however, that the physical dependence produced by these narcotic antagonists is different from that produced by morphine or morphine-like compounds. Withdrawal from dependence on either nalorphine or levallorphan doesn't produce the trauma and discomfort that results following abrupt withdrawal from morphine dependence.

Nalorphine and levallorphan are approximately equivalent, on a mg-for-mg basis, to morphine as analgesics. A significant number of patients experience extreme dysphoric and psychotomimetic disturbances, however, and this precludes the use of these agents as analgesics. These drugs also differ slightly from morphine in the respiratory depressant effects. Whereas morphine-induced respiratory depression becomes more severe as the dose is increased, the respiratory depression produced by 75 mg of nalorphine is not significantly greater than that induced by 10 mg of nalorphine.

Nalorphine and levallorphan will reverse the effects of all the commonly used narcotic analgesics with the exception of pentazocine (Talwin®). The respiratory depression produced by pentazocine is not reversed by either of these agents, perhaps because pentazocine is also a very weak narcotic antagonist.

Pharmacology of Naloxone^{4, 5, 7}

Naloxone is the only pure narcotic antagonist presently available. This agent is a specific antagonist for all narcotic analgesics, including pentazocine. Naloxone is completely devoid of morphine-like activity. In addition, naloxone is capable of reversing respiratory depression and psychotomimetic disturbances induced by nalorphine and levallorphan.

In a clinical trial involving two patients, naloxone was reported to effectively reverse coma, respiratory depression, and pupillary constriction produced by an overdose of propoxyphene. Propoxyphene is not considered to be a narcotic analgesic, but it is similar to the narcotic analgesics both structurally and pharmacologically. Symptoms of propoxyphene overdose (respiratory depression, miosis, and coma)

are the same as those following an overdose of a narcotic analgesic.

Clinical Use of Narcotic Antagonists^{4, 5, 6}

Nalorphine, at a dose of 5 to 10 mg (I.V.) in adults, will reverse narcotic-induced respiratory depression in one to two minutes; the recommended dose in children is 0.1 mg/Kg (I.V.). Levallorphan is somewhat more potent in this regard, requiring a dose of 1 to 2 mg (I.V.) in adults and a dose of 0.02 mg/Kg (I.V.) in children. Both agents have shorter duration of action (one to four hours) than narcotic analgesics, so it is necessary to closely monitor the patient's respiration and administer the drugs when needed.

Nalorphine and levallorphan should be administered parenterally. Both drugs are much less effective following oral administration, presumably because they are rapidly conjugated in the liver. Both agents have a very rapid onset, as evidenced by the almost immediate response (one to two minutes), following parenteral administration.

Nalorphine and levallorphan achieve brain concentrations three to four times greater than equal doses of morphine, but are rapidly removed from the brain. After four hours, only negligible quantities can be found in the brain, accounting for the short duration of action.

The effectiveness of nalorphine and levallorphan also depends on the dose of narcotic analgesic. The relatively minor respiratory depression produced by a therapeutic dose (10 mg) of morphine is not antagonized by 10 mg of nalorphine because of the slight respiratory depression produced by this narcotic antagonist. However, the severe respiratory depression produced by large doses of morphine is very quickly reversed by 5 to 10 mg of nalorphine.

Neither nalorphine nor levallorphan will reverse the respiratory depression produced by other CNS depressants such as the barbiturates. Indeed, the respiratory depression induced by nalorphine or levallorphan may add to or potentiate the respiratory depression produced by other CNS depressants. For this reason, nalorphine or levallorphan should never be used to reverse respiratory depression when the causative agent is unknown.

Naloxone is much more potent than either nalorphine or levallorphan. Naloxone, at a dose

of 0.4 to 0.8 mg (I.M. or I.V.), will very rapidly (one to two minutes) produce an increase in respiratory rate in patients suffering narcotic-induced respiratory depression. This agent also reverses the sedation or coma caused by an overdose of narcotic analgesics. Like nalorphine and levallorphan, naloxone has a very rapid onset and a short duration of action; it may be necessary to re-administer the drug at 30- to 60-minute intervals in severely overdosed patients.

Unlike nalorphine or levallorphan, the antagonistic effects of naloxone are not dependent upon the dose of narcotic analgesic because naloxone has no agonistic properties. Naloxone will also reverse the respiratory depression and psychotomimetic disturbances induced by nalorphine and levallorphan. However, the dose of naloxone required to reverse the effects of nalorphine or levallorphan is much larger (requires 10 to 15 mg in adults) than that necessary to antagonize the effects of morphine or a morphine-like drug.

Naloxone is the drug of choice when treating a patient with severe respiratory depression when the causative agent is unknown or only suspected to be a narcotic analgesic. If the respiratory depression is due to a narcotic analgesic, an immediate improvement in respiratory rate will be noted. Respiratory depression induced by barbiturates or other CNS depressants will not be reversed following administration of naloxone. However, in contrast to nalorphine or levallorphan, naloxone will not potentiate or add to the depressed respiration.

There are few adverse effects following the use of narcotic antagonists. The most serious adverse reaction is the increased respiratory depression that follows the administration of nalorphine or levallorphan to a patient suffering from an overdose of a CNS depressant other than a narcotic analgesic (excepting pentazocine). Another potentially serious adverse reaction follows the use of narcotic antagonists in patients who have a physical dependence on narcotic analgesics. Symptoms of acute withdrawal follow the administration of a narcotic antagonist; these symptoms can be quite severe in a patient dependent on large doses of narcotic analgesic. The physician should try to determine whether or not the patient has a physical dependence,

and if so, use the narcotic antagonists cautiously and at reduced dose levels.

Summary

To summarize:

1. Nalorphine and levallorphan are effective narcotic antagonists for toxic effects (primarily depressed respiration) known to be caused by narcotic analgesics (with the exception of pentazocine);
2. Levallorphan is slightly more potent than nalorphine;
3. Nalorphine and levallorphan add to or potentiate respiratory depression induced by pentazocine or other CNS depressants that are not narcotic analgesics;
4. Nalorphine and levallorphan both have morphine-like effects when administered in the absence of other narcotic analgesics;
5. Naloxone is more potent than either nalorphine or levallorphan and is a pure antagonist having no morphine-like action;
6. Naloxone is the drug of choice in treating respiratory depression of undetermined origin but suspected to be caused by narcotic analgesics;
7. All the narcotic antagonists will precipitate acute withdrawal symptoms and should be administered with caution in the physically dependent patient.

BIBLIOGRAPHY

1. Pohl, J.: Über das N-Allylnorcodein, einen Antagonisten des Morphin, *Z. Exp. Path. Ther.*, 17, 370 (1911).
2. McCawley, E. L., Hart, E. R., and March, D. F.: The Preparation of N-Allylnormorphine, *J. Am. Chem. Soc.*, 63, 314 (1941).
3. Eddy, N. B.: Agonist-antagonists: An Historical Overview, in *Agonist and Antagonist Actions of Narcotic Analgesic Drugs*, Kosterlitz, H. W., Collier, H. O. J., and Villarreal, J. E., Eds., pp. 1-5, University Press, Baltimore, 1973.
4. Blumberg, H., and Davton, H. B.: Naloxone and Related Compounds, *Ibid.*, pp. 110-119.
5. Jaffe, J. H., and Martin, W. R.: Narcotic Analgesics and Antagonists, in *The Pharmacological Basis of Therapeutics*, Goodman, L. S., and Gilman, A., Eds., Fifth Ed., Chap. 15, pp. 271-276, Macmillan Publishing Co., New York, 1975.
6. Jasinski, D. R.: Effects in Man of Partial Morphine Agonists, in *Agonist and Antagonist Actions of Narcotic Analgesic Drugs*, Kosterlitz, H. W., Collier, H. O. J., and Villarreal, J. E., Eds., pp. 94-103, University Park Press, Baltimore, 1973.
7. Kersh, E. S.: Treatment of Propoxyphene Overdosage with Naloxone, *Chest*, 63, 112 (1973).



PUBLIC HEALTH AT A GLANCE

Cooperative Health Manpower Statistics System

Werner Haney*

A cooperative Federal, State and local health data system seems imperative in an era when the health care system has investments from all sectors, and particularly, since rational decision making for any investment of magnitude requires reliable and continuing baseline data. The Health Resources Administration of the Public Health Service, U. S. DHEW, working primarily through the National Center for Health Statistics has undertaken the development and establishment of a continuing and flexible system for making available the necessary health data at the Federal, State and local levels.

The National Center for Health Statistics (NCHS) has proposed a coordinated cooperative system of collecting health data involving Federal, State and local agencies. Efforts to collect health data in the past were frequently duplicative of one another and possessed very little of the continuity and comparability which are essential to a reliable health statistics system.

One of the components of the cooperative Health Statistics system is the Health Manpower Statistics Program. The Division of Health Statistics of the Arkansas Department of Health is working under contract with NCHS to collect, tabulate and process statistical data covering thirteen health professions in Arkansas. The health professions are chiropractor, dentist, dental hygienist, physician, osteopath, physical therapist, nursing home administrator, optometrist, pharmacist, veterinarian, registered nurse, licensed practical nurse and podiatrist. Almost half of the states are now participating in this program with NCHS.

The Division of Health Statistics works with the licensure Boards in each health profession in gathering statistical data from persons licensed in Arkansas. Stage I data is simply a listing by name and address while Stage II data is a set of

selected statistical data, which is gathered by questionnaires mailed out preferably with the license renewal in cooperation with the licensure board. The questionnaire is flexible and can include data which the licensure board or professional association may desire. The goal is that all the statistical data needed by planners, associations, colleges, universities and governmental agencies can be collected during the licensure board of that particular profession. Health Manpower data in summary tabulation form will be made available to health planning agencies, legislators, other agencies and institutions and to any person having a need for the data. A copy of the data is submitted to the National Center for Health Statistics where it is assimilated with data from the other states to provide national statistics and also to be used in a comparative analysis and study of the thirteen health professions on a nationwide basis.

There are many examples of duplication of efforts in the collection and processing of health data today. Programs such as the cooperative Health Manpower Statistics System can help alleviate that situation so that maximum use of our resources can be utilized in the field of health care for our citizens.

<i>Health Profession</i>	<i>Number Licensed in Arkansas¹</i>
1. Chiropractor	146
2. Dentist	709
3. Dental Hygienist	173
4. Physician	2,079
5. Osteopath	15
6. Physical Therapist	109
7. Nursing Home Administrator	321
8. Optometrist	186
9. Pharmacist	1,354
10. Veterinarian	244
11. Registered Nurse	5,937
12. Licensed Practical Nurse	6,592
13. Podiatrist	23

¹Resident of Arkansas.

*Director, Division of Health Statistics, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.



EDITORIAL

Prevention of Hepatitis B: A Favorable Turn of Events

Charles M. Nolan, M.D.*

Hepatitis B, modern terminology for "homologous serum hepatitis," refers precisely to cases of viral hepatitis in which hepatitis B antigen (formerly Australia Antigen) is present in serum. This variety of viral hepatitis has become known as an occupational disease of the health care professions,¹ and the issue of protection of medical workers accidentally exposed to blood or blood products is frequently raised. However, it is well established that pooled human gamma globulin (immune serum globulin), effective in hepatitis A prophylaxis, is ineffective in preventing or modifying the clinical course of hepatitis B. The scientific basis for this old clinical observation has now been elucidated. Lots of commercial immune serum globulin prepared prior to 1967 contained negligible amounts of specific antibody to hepatitis B, according to retrospective testing by currently available techniques.² It is therefore not surprising that original studies failed to show a beneficial effect of these lots of antiserum in individuals who had been exposed to hepatitis B.

In recent years, however, the levels of antibody to hepatitis B antigen (hepatitis B antibody) in commercial immune serum globulin is increasing; lots prepared since 1971 contain, on the average, 5-fold greater titers than those prepared before 1967.² This phenomenon corresponds to the advent of screening donors of plasma for these preparations for hepatitis B antigen, which suggests the following hypothesis: lots of serum prepared prior to screening often contained hepatitis B antigen from asymptomatic carriers; this antigen was neutralized by its specific antibody, also present in the pools, but in the process of neutralization, levels of free

hepatitis B antibody were reduced sufficiently so that these serum pools were not effective in hepatitis B prophylaxis. Now that hepatitis B antigen is excluded by effective screening procedures, original amounts of free hepatitis B antibody are retained in current serum pools.

Following this logic, it could be further inferred that recent lots of immune serum globulin, containing significant concentrations of hepatitis B antibody, should be more effective than previous ones in hepatitis B prophylaxis. Remarkably, several recent studies have indeed shown a protective effect of immune serum globulin against clinical manifestations and complications of hepatitis B,^{3,4,5} especially in instances of small doses of inocula and following percutaneous or oral routes of exposure.

On the basis of this information, two recent articles by authoritative sources recommend a revision in current practice of passive immunization against hepatitis B.^{6,7} These authors recommend that in instances of acute, intense exposure to hepatitis B virus, commercial immune serum globulin should be given in high doses (0.04 to 0.10 ml/Kg body weight, compared to a dose of 0.02 ml/Kg after exposure to suspected hepatitis A). Specific indications are (1) accidental inoculation of blood or secretions which test positive for hepatitis B antigen and (2) individuals having intimate contact with patients with acute hepatitis which is hepatitis B antigen positive. Individuals in these two groups have considerably increased risk of developing acute hepatitis and should receive the benefit of any possible protection. Since immune serum globulin may now afford such protection and is, in addition, safe, inexpensive, and widely available, its use is recommended.

*Assistant Professor of Medicine, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Ark. 72201.

These recommendations are advanced cautiously, and will be subject to modification based on information now being accumulated on antisera prepared specifically for use in hepatitis B, containing titers of antibody far in excess of those in immune serum globulin.⁷ However, even before this specific antiserum is available, the traditional negative view of hepatitis B prophylaxis must be revised in the light of encouraging results in recent clinical studies. In certain circumstances, outlined above, the use of commercial immune serum globulin should be strongly considered.

REFERENCES

1. Pattison, C. P., Maynard, J. E., Berquist, K. R., et al.: Epidemiology of hepatitis in hospital personnel. *Am. J. Epidemiology* 101:59-64, 1975.
2. Grady, G. F.: Passive immunization against viral hepatitis—status and prospects. *Am. J. Med. Sci.* 270:369-374, 1975.
3. Ginsberg, A. L., Conrad, M. E., Bancroft, W. H., et al.: Prevention of endemic HAA positive hepatitis with gamma globulin: Use of a simple radioimmunoassay to detect HAA. *N. Eng. J. Med.* 286:562-566, 1972.
4. Szmunes, W., Prince, A. M., Goodman, M., et al.: Hepatitis B immune serum globulin in prevention of non-parenterally transmitted hepatitis. *N. Eng. J. Med.* 290:701-706, 1974.
5. Krugman, S., Giles, J. P.: Viral hepatitis, type B (MS-2 strain). Further observations on natural history and prevention. *N. Eng. J. Med.* 288:755-760, 1973.
6. Snydman, D. R., Bryan, J. A., Dixon, R. E.: Prevention of nosocomial viral hepatitis, type B (Hepatitis B). *Ann. Intern. Med.* 83:838-845, 1975.
7. Alter, H. J., Barker, L. F., Holland, P. V.: Hepatitis B immune globulin: Evaluation of clinical trials and rationale for usage. *N. Eng. J. Med.* 293:1093-1094, 1975.



MEDICINE IN THE



THE MONTH IN WASHINGTON

President Ford's all-out attack against rising government spending sustained a major blow with the Congressional override of his veto of a \$45 billion health, welfare and labor bill.

The vetoed bill called for \$1 billion more than the Administration's budget request and required hiring of 8,000 more Health, Education, Welfare Department employees. Almost \$800 million of the increase involves health programs which would receive a total of \$3.9 billion for the fiscal year that ends September 30.

Both houses of Congress exceeded the two-thirds vote necessary to override a veto. The tally was 310 to 113 in the House; 10 to 24 in the Senate.

The Administration defeat came despite a last-minute administration offer to compromise by more or less splitting the difference for a \$500 million increase.

Ford had said in his veto message the bill was "a classic example of unchecked spending." But Democrats charged the money measure would cut spending below last year's level and not meet inflation-caused increases.

The bill provides more funds for such programs as Community Mental Health Services, Maternal and Child Health, medical research, Alcoholism and Drug Abuse Facilities, Emergency Medical Services and education of health professionals.

The Congressional vote was preceded by all-out efforts on both sides to line up votes and by vigorous lobbying from affected outside groups.

The HEW money bill is considered the hardest to vote against in Congress because of the multitude of popular programs funded. Asked how the House was able to muster such a vote to override including dissident Republicans,

House Majority Leader, Thomas O'Neill, Jr. (D.-Mass.) replied simply, "the coming election."

House Majority Whip, Representative Robert Michel (R.-Ill.) told the House in the debate that it would be "setting the spending tone for the session."

* * * *

Officials of the American Medical Association have met with President Ford and his top health officers to discuss a wide range of health topics including the Administration's new health proposals and federal regulation problems worrying the physicians of the country.

The 45-minute meeting in the Cabinet Room at the White House was described by participants as friendly. "The President listened with interest to what we had to say and his attitude seemed to be sympathetic," said AMA President Max H. Parrott, M.D.

Dr. Parrott said President Ford noted the pressure he is facing to take positions that might disturb some physicians. The Chief Executive made a point of urging the AMA and members of his Administration and White House staff to confer often to resolve differences.

Among the subjects discussed were the President's State of the Union and Budget Health Proposals, government regulations affecting physicians, the Federal Trade Commission move to allow physicians to advertise, costs of medical care, and medical manpower.

Present for the AMA, in addition to Dr. Parrott, were Raymond T. Holden, M.D., Chairman of the AMA Board of Trustees; Richard E. Palmer, M.D., AMA President-Elect; James H. Sammons, M.D., Executive Vice President of the AMA; and Joe Miller, Deputy Assistant Executive Vice President.

President Ford was told that his recommended annual four percent limit on physician reimbursement increases under Medicare poses real problems with the medical profession which must adjust to higher costs of doing business yearly as well as the ever-climbing costs of professional liability insurance.

Ford indicated he understood the viewpoint of the profession on the matter and proposed that Administration officials and AMA representatives meet further on the issue.

The AMA delegation told Ford about the AMA's National Commission on the Cost of Medical Care and invited the President to ap-

point a representative of his Administration to serve as a member.

There was considerable talk about the supply of physicians, with President Ford evincing special interest in the Foreign Medical Graduate situation and the problems of Americans studying medicine abroad. The AMA officials described the increasing numbers of young physicians entering primary care, now 58 percent.

The AMA's support of the National Health Service Corps as a principal means of helping physician-short areas was outlined. The voluntary incentives in this program were compared with the "indentured service" aspects of health manpower legislation before Congress that would compel young physicians to serve or to payback the government for federal aid received by medical schools.

In reply to a question from Ford, the AMA delegates noted the organization's support of federal medical scholarships.

The controversial Utilization Review Regulations were talked about. HEW Secretary Mathews was complimented by the delegation for his reasonable approach and willingness to work with the profession to reach agreement on these rules.

President Ford was told that the AMA could find no scientific basis for the disputed Maximum Allowable Cost proposals for Medicare-Medicaid outpatient drugs. The MAC plan could lead to interference in the practice of medicine by restricting the physicians' prescribing scope and could hurt the quality of health care, the AMA officers said.

The FTC suit to overturn the AMA ban on physician advertising will be contested in court, the AMA asserted. The AMA was founded in part to do away with abuses of charlatans and advertising of physicians' services, the Chief Executive heard.

The President sought support for his health programs and expressed confidence the Administration and the representatives of the medical profession could work together to iron out differences and reach accommodations.

* * * *

Mandatory second professional opinions have been urged for elective or non-emergency surgery under Medicare and Medicaid by a House Commerce Subcommittee.

The Subcommittee on Investigations and Over-

sight, which held hearings last fall on unnecessary surgery, charged in a report that there were an estimated 2.4 million unnecessary surgeries performed in 1974 at a cost to the public of almost \$4 billion. The procedures led to an estimated 700 deaths, the report said.

Contending that second consultations could cut down "significantly" on unneeded surgery, the Subcommittee, headed by Representative John Moss (D.-Calif.) said "such a program would save the government millions of dollars."

Arguments that second opinions would cost money and not necessarily provide a solution and expert assertions that it is difficult to determine what constitutes unnecessary surgery were brushed aside by the Subcommittee in its strongly-worded report.

The report said the lawmakers were impressed with evidence "that prepayment plans for consumers and salaried surgeons help reduce surgery in equivocal situations."

"Evidence was compiled in the Subcommittee's investigation that the fee-for-service mechanism of surgical payment encourages surgery in questionable situations," the report said. "An in-depth study of this should be undertaken" by the HEW Department.

The Subcommittee recommended that HEW immediately undertake a study to determine the differences in health indices, costs and the surgical procedure rates between salaried surgeons and fee-for-service surgeons.

* * * *

Legislation to amend the Health Maintenance Organization (HMO) program "would effectively gut the HMO concept and subvert the original intent of the program," the AMA has told the Senate.

Edgar T. Beddingfield, M.D., Vice-Chairman of the AMA's Council on Legislation, said the House-passed HMO amendments "remove important comprehensive services and eliminate characteristics which distinguish the HMO from other prepaid group practices."

The AMA witness testified on the final day of hearings on changes in the HMO program. The House bill eliminates many of the benefits stipulated in the original HMO bill and makes other changes designed to make it easier to set up and operate such pre-paid health systems.

Dr. Beddingfield said the House bill in effect converts a demonstration health delivery program into a mechanism for the federal funding of ordinary prepaid groups.

"If in fact the HMO is to be no different from prepaid groups which have existed without federal funding, then we submit there is no justification for federal funding under the guise of experimentation or otherwise."

* * * *

Congress has buttressed the medical and hospital professions' case against the Utilization Review Regulations originally promulgated by HEW.

The lawmakers approved with no dissent a provision making it clear that Congress never intended to require 100 percent review of all Medicare-Medicaid hospital admissions, a key part of the controversial UR Regulations issued by HEW.

The AMA has challenged successfully the UR Regulations in court. The HEW Department is slated soon to issue revised regulations after court-ordered negotiations with the AMA.

One of the major arguments against the Regulations was that HEW had reached beyond Congress' intent in carrying out the review program. Congress' vote on the amendment to the Medicare-Medicaid laws appeared to back up the protests of the AMA and the American Hospital Association.

Sen. Paul Fannin (R.-Ariz.) told the Senate that the original regulations calling for direct review of each Medicare-Medicaid admission "is beyond the scope of what we intended . . ."

Chairman Russell Long (D.-La.) of the Senate Finance Committee said "the idea of requiring that everything in a claim be reviewed is not what we had in mind when we passed the law. It is a technical error that should be corrected, otherwise, there would be needless cost and a great deal of unnecessary paperwork."

* * * *

The Administration has opposed a specific extension of the program of federal aid to states and localities to demonstrate ways of improving emergency medical services.

Testifying before the Senate Health Subcommittee, Theodore Cooper, M.D., Assistant Secretary for Health, said such assistance could be

handled in the future under the Administration's proposed block grant plan to consolidate 16 existing categorical programs.

The so-called "Financial Assistance For Health Care Act" will give states and localities "the discretion to continue funding according to individual state priorities," Dr. Cooper testified.

Legislation before the Senate to extend the program at costs ranging from \$270 million to \$416 million are "far in excess" of what is required to demonstrate effective systems for emergency medical services, said Dr. Cooper.

He told the Subcommittee, headed by Senator Edward Kennedy (D.-Mass.), that the HEW Department already has ample research authority to carry out improvements in emergency services.

* * * *

Americans' health continues to improve. Lower infant death rates and longer life expectancy are shown in a State of the Union's Health Report for 1975 submitted to Congress and President Ford by the HEW Department.

Rates of infant deaths in the U.S. declined from 29.2 per 1,000 live births in 1950 to an estimated 16.5 in 1974. Over the same period, life expectancy at birth increased by nearly four years. The death rate for heart disease is decreasing.

"The report shows considerable achievement as well as need for improvement," Theodore Cooper, M.D., Assistant Secretary for Health, said. "As a people we are receiving more medical care now than 10 years ago. We have made considerable progress in lowering the income barrier to care. Most of us describe our health as good or excellent."

"Conversely, we may well have a higher prevalence of chronic diseases," Dr. Cooper said. "People are living to the older ages where they develop conditions such as arthritis and diabetes, and we can better manage these conditions medically. Many areas of the country appear to lack adequate supplies of health manpower, and costs remain a burden for many."

The report, Health, United States, 1975, includes data on health care costs and financing, health resources and utilization, and health status. The death rate for heart disease among persons aged 55-64 dropped almost 15 percent over the past six years. In the same age group, the death rate from cancer rose almost four per-

cent. Among younger people, accidents and homicide are major causes of death.

"The data suggests that much improvement in health status could come from individual action," Dr. Cooper said. "Most death and disability from accidents are preventable, so are health conditions which are aggravated by excessive use of alcohol and tobacco and by lack of exercise and proper diet. They are preventable primarily by changes in individual behavior. Medical care alone can do relatively little."

* * * *

Representative Thomas Morgan, M.D., Chairman of the House Foreign Affairs Committee, announced he will retire at the end of this session of Congress. Dr. Morgan, a Pennsylvania Democrat, is one of three physicians in Congress. Despite his Congressional duties, Dr. Morgan has maintained a continuous but small practice in his home town of Fredericktown. The 69-year-old physician has served in Congress for 32 years and as Chairman of the Foreign Affairs Committee for 18 years — longest service as Chairman of any current Committee Chairman in the House. Dr. Morgan focused his legislative interest almost exclusively on foreign affairs. He seldom became involved in legislative health matters. The other physician-Congressmen are Representative Tim Lee Carter (R.-Ky.) and Larry McDonald (D.-Ga.).

* * * *

Out-of-town hearings on National Health Insurance have been slated tentatively by the House Ways and Means Health Subcommittee for:

Chicago — February 26-27.

San Francisco — March 18-19.

Knoxville, Tenn. — March 25-26.

Salem, Oregon — May 6-7.

New Orleans — May 20-21.



ANSWER—Electrocardiogram of the Month

Normal ECG. Apparent ST segment elevation in leads I, V4 and V6 is due to early repolarization, a normal variant. This finding can at times be mistaken to indicate pericarditis or myocardial injury.

THINGS TO COME

1976 Tri-State Scientific Sessions for Physicians

The Arkansas, Louisiana, and Mississippi Heart Associations are sponsoring a tri-state scientific session for physicians May 20-22, 1976, at the Montelone Hotel in New Orleans, Louisiana. The title of the program is "Cardiology '76."

The program is approved for 15½ elective hours by the American Academy of Family Physicians. Registration fee is \$130 for Heart Association members and \$150 for non-members. For further information and registration contact: Arkansas Heart Association, Post Office Box 1610, Little Rock, Arkansas 72203.

Nutrition Symposium VII, "Nutrition: 1776-1976"

The Memphis Area Nutrition Council is presenting the seventh in a series of national, annual meetings on nutrition on Wednesday and Thursday, May 12-13, 1976, at the Wassell Randolph Student-Alumni Center, University of Tennessee Center for the Health Sciences, 800 Madison Avenue, Memphis, Tennessee 38163. The program will be presented by speakers with national and international reputations in the area of nutrition.

Department of Psychiatry Announces Twenty-Fifty Anniversary OPEN Meeting

The Department of Psychiatry of the University of Arkansas for Medical Sciences will hold its twenty-fifth anniversary OPEN meeting June 11, 1976, from 8:30 a.m. until 4:30 p.m. at the University of Arkansas for Medical Sciences auditorium.

The subject of the meeting is "Prescriptions for Progress" and the speakers are Dr. Thomas A. Bruce, Dean of the College of Medicine, Mr. W. C. Huddleston, Mr. Tom Miller, Dr. Joe Baker, Dr. Max Baker, Dr. Ben N. Saltzman, Dr. J. L. Dennis, Chancellor of the College of Medicine, will speak at the luncheon, and discussion group reporters. Advance registration by \$5 check payable to Twenty-fifth Anniversary Meeting and sent to: Mrs. M. Ferguson, Slot 506, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72201.

AMA Section Council on Anesthesiology Sets Course

The Section Council on Anesthesiology of the AMA will sponsor a six-hour continuing education course for recovery room nurses on Saturday, June 26, 1976, in Dallas, Texas. The course will be at the University of Texas Southwestern Medical School at Dallas. The program will present newer concepts in Basic and Advance Life Support, Therapy of Hyper- and Hypotension in the Recovery Room, Clinical Interpretation of Blood Gas Analysis, Monitoring in the Recovery Room, and Recovery Room Effects of Intra-Operative Drugs. The registration fee will be \$60. Space is limited. Inquiries should be addressed to the Office of Registration, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.



BOOK REVIEWS

Alfred Kahn, Jr., M.D.

INFECTIOUS DISEASES IN OBSTETRICS AND GYNECOLOGY, by Gilles R. G. Monif, M.D., and 15 Contributors, Medical Department, Harper & Row, Publishers, Hagerstown, Maryland, New York, Evanston, San Francisco, and London, 1974.

This is a very interesting book. It has therapeutic ramifications beyond the field of obstetrics and gynecology. It is of extreme interest to anyone who has to deal with infectious diseases—the general practitioner, internist, and the surgeon will find this book inclusive and accurate.

One of the most interesting chapters in the book is on the therapeutic approach of antimicrobial agents. It discusses how antibiotics work. It also discusses some of the toxic effects of antibiotics. There is always the problem of the use of antibiotics in pregnancy, and this area is exceptionally well covered. There are chapters pertaining to viruses, spirochetes, etc., with a common sense approach to the therapy of these disorders.

The book is well illustrated. References are included at the end of the chapters. This text is heartily regarded as a worthwhile volume on infectious diseases, not alone in obstetrics and gynecology, but for any physician.



PERSONAL AND NEWS ITEMS

Physician Relocates

Dr. Beuford Durmon, formerly of Malvern, has joined Dr. Millard C. Edds, Dr. Ed G. Hopkins and Dr. Yale E. Parkhurst at the Edds Clinic in Van Buren as a family practitioner.

Health Officer Named

Dr. John L. Delamore of Fordyce has been named Dallas County health officer. The voluntary post is for a one-year appointment.

Dr. Delamore has been in the private practice of family medicine in Fordyce for twenty-two years.

Physician Aids Victims

Dr. E. N. McCollum of Decatur recently went to Guatemala to aid the people involved in the earthquake disaster. Dr. McCollum left on February 11, 1976, and took drugs and medical supplies with him. He went to Patsun, a village of 6,000 located seventy-five miles north of Guatemala City, and used the village church as a clinic. Dr. McCollum reported that 200 people were killed and 85% of the buildings destroyed.

Physicians Elected

Dr. Morriss M. Henry of Fayetteville is the newly-elected President of the Ninth Councilor District. Dr. John D. Ginger, also of Fayetteville, was elected Secretary-Treasurer of the Ninth Councilor District.

Dr. Bruce Speaks at Batesville

Dr. Thomas A. Bruce, Dean of the College of Medicine of the University of Arkansas, recently presented suggestions at Batesville on how to alleviate the problem of getting young doctors, fresh out of medical school, to return to their home towns or small communities.

Doctor Heads Coronary Care Unit

Dr. K. K. Jayaraman, of Hot Springs, has been named medical director of the Coronary Care Unit of the St. Joseph's Hospital in Hot Springs. Dr. Jayaraman succeeds Dr. Driver Rowland who was responsible for the planning and development of the coronary care unit.

Physician Participates in Symposium

Dr. Robert Smith of Pine Bluff recently participated in a symposium on the question of

"Minorities and Health Sciences" at the University of Arkansas at Pine Bluff. The symposium was part of the twenty-second annual regional meeting of the National Institute of Science which was held jointly with a meeting of Beta Kappa Chi.

Dr. Toon Named Family Practice Diplomate

Dr. Donald Toon of Crossett has been named a diplomate of the American Board of Family Practice (ABFP) as a result of passing an intensive two-day written examination offered by the ABFP. Dr. Toon is now certified in the specialty of family practice which includes areas of internal medicine, surgery, obstetrics, gynecology, pediatrics, psychiatry and community medicine.

Dr. Chudy Visits Soviet Union

Dr. Amail Chudy of North Little Rock recently toured the Soviet Union for an evaluation of the medical facilities there and how the Soviet physicians practice medicine.

Society Members' Article Published in Southern Medical Journal

An article entitled "Renal Angiomyolipoma" by Dr. Nabil K. Bissada and Dr. John F. Redman both of Little Rock was published in the February 1976 issue of the *Southern Medical Journal*.

Dr. Kolb Attends Meeting

Dr. W. Payton Kolb of Little Rock recently attended the Fifth Institute on Government Operations sponsored by the American Psychiatric Association in Washington, D. C.

Dr. Guenther Represents State Medical Board

Dr. John F. Guenther of Mountain Home recently represented the Arkansas State Medical Board at the Federation of Medical Boards of the United States in Chicago, Illinois, January 29-31, 1976.

Dr. Guenther is a member and former vice president of the State Medical Board. At the meeting in Chicago, the main topic for discussion included revalidation of medical licenses by compulsory continued education every three years. The Arkansas State Medical Board is now

considering enactment of such requirements for all practicing physicians in the State.

Dr. Saltzman Honored

Dr. Ben N. Saltzman of Little Rock was recently selected "Arkansas Man of the Year" by

the *Arkansas Democrat*. Dr. Saltzman received recognition for his many years of service to voluntary health organizations locally and nationally, his civic contributions and his service as a practicing physician.



**NEW
MEMBERS**

Dr. Don H. Penly

The Baxter County Medical Society has added the name of Dr. Don H. Penly to its membership rolls. Dr. Penly is a native of Williamsburg, Iowa.

Dr. Penly obtained his pre-medical education at the University of Northern Iowa and received his M.D. degree from the University of Iowa College of Medicine in 1941. His internship was at the Detroit Receiving Hospital.

Dr. Penly is practicing at 603 West Market Street in Horseshoe Bend and is a family practitioner.

Dr. John C. Henderson

Dr. John Charles Henderson is a new member of the White County Medical Society. He is a native of Memphis, Tennessee.

Dr. Henderson received his B.S. degree from Memphis State University in 1964 and received his M.D. degree from the University of Tennessee College of Medicine in 1967. His internship was at Medical College of Georgia and his residency was spent at the Medical College of Georgia, also.

Dr. Henderson served as assistant professor at the Medical College of Georgia from July 1, 1974, to July 11, 1975. He was also director of the Coronary Care Unit at the VA Hospital in Augusta, Georgia, from March 1, 1974, to July 11, 1975.

Dr. Henderson practices cardiology and internal medicine at 2900 Hawkins Drive in Searcy.

Dr. David D. Fried

The Polk County Medical Society has added the name of Dr. David Daniel Fried to its membership rolls. Dr. Fried is a native of Bigfork, Arkansas.

Dr. Fried obtained his pre-medical education from the University of Oklahoma and received his medical education from the University of Oklahoma School of Medicine and was graduated from that school in 1940. His internship was spent at Broadlawns Polk County Hospital in Des Moines, Iowa, from June 1940 to June 1941. Dr. Fried was a Baptist Missionary in West Africa for a number of years.

Dr. Fried now practices general medicine with surgery at Northside Shopping Center in Mena.

Dr. David L. Stewart

Dr. David L. Stewart, a native of Franklin, Pennsylvania, has recently joined the Saline County Medical Society. Dr. Stewart is a family practitioner at 203 West Carpenter in Benton.

Dr. Stewart obtained his medical education from the University of Arkansas School of Medicine and was graduated in 1973. His internship was taken at St. Elizabeth Medical Center in Dayton, Ohio. Dr. Stewart's family practice residency was also taken at St. Elizabeth Medical Center in Dayton. He served in the United States Navy for four years.

Dr. Douglas E. Parkin

The Sevier County Medical Society has accepted Dr. Douglas Edward Parkin as a new member of their society. Dr. Parkin is a native of St. Louis, Missouri. Dr. Parkin received his B.A. degree in 1964 from the Arizona State University. His M.D. degree was obtained from the University of California College of Medicine at Irvine in 1968.

Dr. Parkin had a rotating internship at Con-

federate Memorial Hospital in Shreveport; his three-year residency was in pediatrics, and he was also in the United States Army for three years.

Dr. Parkin is a pediatrician at the DeQueen Clinic in DeQueen.

Dr. Ralph D. Cash

The Saline County Medical Society has added to its membership roll the name of Dr. Ralph Douglass Cash, a native of Memphis, Tennessee.

Dr. Cash attended Vanderbilt University and received his B.A. degree in 1964. His M.D. degree was received from the University of Arkansas School of Medicine and he was graduated in 1968. Dr. Cash took his internship at the University of Texas at San Antonio from 1968 to 1969 and his residency was also taken at the University of Texas from 1969 to 1973. He was stationed at Castle Air Force Base in Merced, California from 1973 to 1975.

Dr. Cash practices orthopedics at 105 McNeil Street in Benton.

Dr. W. Robert Thurlby

Dr. W. Robert Thurlby has been accepted for membership in the Pope County Medical Society. He is a native of Tulsa, Oklahoma.

Dr. Thurlby received his B.S. degree in medicine and his B.A. degree in chemistry in 1966 from the University of Arkansas. He was graduated from the University of Arkansas School of Medicine in 1970. He took a straight medicine internship at the University of Arkansas. Dr. Thurlby completed an internal medicine residency at Barnes Hospital, Washington University, St. Louis, Missouri, and a cardiology fellowship at St. Luke's Hospital in St. Louis, Missouri. He was General Medical Officer in the United States Navy.

Dr. Thurlby now practices internal medicine and cardiology at the Millard-Henry Clinic in Russellville.

Dr. Rodney L. Griffin

The Columbia County Medical Society has added the name of Dr. Rodney L. Griffin to its membership list. Dr. Griffin is a native of Magnolia, Arkansas.

He received a B.S. degree in pharmacy from the University of Arkansas College of Pharmacy and his medical education was received from the University of Arkansas School of Medicine. He was graduated in 1974.

Dr. Griffin is a family practitioner at 123 North Jackson in Magnolia.

Dr. Kenneth H. Skipper

Dr. Kenneth H. Skipper has recently joined the Crawford County Medical Society. He is a native of Dayton, Ohio.

Dr. Skipper received his B.S. and B.A. degree from Harvard University in 1970. His medical education was received from Case Western Reserve University School of Medicine in Cleveland, Ohio, and he was graduated in 1974. He completed his internship at Northwestern Memorial Hospital in Chicago, Illinois.

Dr. Skipper is now in general practice at East 20th and Main Streets in Van Buren.

Dr. Dwight F. Boggs

The Greene-Clay County Medical Society has accepted as a member Dr. Dwight F. Boggs, a native of Idabel, Oklahoma.

Dr. Boggs attended Harding College in Searcy and was graduated in 1965 with a B.S. degree. His medical education was completed at the University of Arkansas School of Medicine in 1969. He took an internship at St. John's Hospital in Tulsa, Oklahoma, and his residency was also taken there in pathology.

Dr. Boggs is now with the Community Methodist Hospital, 905 West Kingshighway, in Paragould as a pathologist.

Dr. James T. Russell

Dr. James T. Russell has been accepted for membership in the Nevada County Medical Society; he is a native of Little Rock, Arkansas.

Dr. Russell attended the University of Arkansas and received a B.A. degree in chemistry in 1970. He was graduated from the University of Arkansas School of Medicine in 1974. Dr. Russell is now in family practice at 301 Hale Avenue in Prescott.

Dr. Samuel P. Stubbs

The Saline County Medical Society has accepted Dr. Samuel Page Stubbs as a member of their society. Dr. Stubbs is a native of Kansas City, Kansas.

Dr. Stubbs was graduated from the University of Arkansas School of Medicine in 1941. He completed his internship at Lima Memorial Hospital, Lima, Ohio. He has been associated with the Veterans Hospital in Fayetteville, Muskogee, and Little Rock.

Dr. Stubbs is presently a family practitioner at the Benton Services Center in Benton.

Dr. Richard P. Portis

Dr. Richard P. Portis has recently been added to the membership rolls of the Nevada County Medical Society.

Dr. Portis completed his pre-medical education at the University of Arkansas and was graduated in 1968. He received his medical education from the University of Arkansas School of Medicine and was graduated in 1974.

Dr. Portis is now in family practice at 301 Hale Avenue, Prescott.

Dr. William A. Coger

The Pope County Medical Society has accepted Dr. William Allen Coger for membership. Dr. Coger is a native of Russellville, Arkansas.

Dr. Coger was graduated from the University of Arkansas School of Medicine in 1970, and he completed his internship at the United States Naval Hospital, Camp Pendleton, California. Dr. Coger is in general practice at the Dan-Ark Village in Danville.

Dr. Michael C. Young

Dr. Michael C. Young's name was recently added to the membership rolls of the Nevada County Medical Society. He is a native of Fayetteville, Arkansas.

Dr. Young attended the University of Arkansas and received a B.A. degree in chemistry in 1970. He was graduated from the University of Arkansas School of Medicine in 1974. After completing a family practice residency at the University Medical Center, he is now in practice at 301 Hale Avenue, Prescott.

Dr. James J. Greenhaw

The Washington County Medical Society recently accepted for membership Dr. James J. Greenhaw, a native of Snowball, Arkansas.

He received his pre-medical education from Harding College in Searcy and the University of California at Berkeley. He received his M.D. degree from the University of Arkansas School of Medicine and was graduated in 1956.

Dr. Greenhaw is presently practicing radiology at the Siloam Springs Memorial Hospital in Siloam Springs.

Dr. Kimber M. Stout

Dr. Kimber MacKenzie Stout of Little Rock has been accepted for membership in the Pulaski County Medical Society.

Dr. Stout attended Hendricks College in Conway from 1963 to 1966 and received his medical education from the University of Arkansas School of Medicine and was graduated in 1970. His internship was completed at the University of Oregon in Portland and he completed his residency at the University of Arkansas Medical Center in internal medicine and cardiology.

Dr. Stout is now practicing cardiology at 10001 Lile Drive in Little Rock.

Dr. Emile P. Eckart

Dr. Emile Peter Eckart, a native of New Orleans, was recently added to the membership roll of the Pulaski County Medical Society. Dr. Eckart received his B.S. degree from the Louisiana State University in Baton Rouge and received his medical education from the Louisiana State University School of Medicine in New Orleans and was graduated in 1943. His internship was taken at Charity Hospital in New Orleans and his residency in psychiatry was taken at Menninger School of Psychiatry and Winter Veterans Administration Hospital both in Topeka, Kansas.

Dr. Eckart is certified by the American Board of Psychiatry and is practicing psychiatry at 4313 West Markham in Little Rock.

Dr. Alex E. Finkbeiner

The Pulaski County Medical Society has accepted for membership Dr. Alex Ellsworth Finkbeiner, a native of Fremont, Michigan.

Dr. Finkbeiner completed his medical education in 1967 at the University of Michigan Medical School at Ann Arbor. His internship was completed at Cleveland Clinic in Cleveland, Ohio, and his residency in general surgery and urology was completed at the University of Michigan.

Dr. Finkbeiner is practicing urology at 4301 West Markham in Little Rock.

Dr. Gordon L. Gibson

Dr. Gordon Leldon Gibson has been accepted for membership in the Pulaski County Medical Society.

A native of Little Rock, Dr. Gibson was grad-

uated in 1971 from the University of Arkansas School of Medicine. He took his internship at the Kansas City General Hospital in Kansas City, Missouri. His residencies in neurology were taken at the University of Nebraska from 1972 to 1973 and the University of Arkansas from 1973 to 1975.

Dr. Gibson is in the private practice of neurology at 300 Medical Towers Building in Little Rock.

Dr. Noel W. Lawson

Dr. Noel Walter Lawson's name has been recently added to the membership roll of the Pulaski County Medical Society. He is a native of Conway.

Dr. Lawson received his B.A. degree from Hendrix College in 1961, and attended the University of Arkansas School of Medicine and was graduated in 1965. Dr. Lawson completed his internship at Duval Medical Center in Jacksonville, Florida, and completed his residencies in anesthesiology at the University of Missouri in Columbia, and Baylor College of Medicine in Houston, Texas.

Dr. Lawson is board certified in anesthesiology and is associate professor of anesthesiology at the University of Arkansas School of Medicine in Little Rock.

Dr. Raymond T. Morrissy

Dr. Raymond T. Morrissy has been accepted for membership in the Pulaski County Medical Society. He is a native of Chicago.

Dr. Morrissy received his B.S. degree from Loyola University in Chicago in 1963. He was graduated in 1967 from Loyola University Stritch School of Medicine also in Chicago. His internship was completed in 1969 from the University of Pittsburgh Health Center Hospital in Pittsburgh, Pennsylvania. His residency in general surgery was also taken there and at the Massachusetts General Hospital in Boston, Massachusetts and the combined Harvard orthopedic residency training program also in Boston.

Dr. Morrissy is board certified by the American Board of Orthopedic Surgeons and his specialty is children's orthopaedics. He is now practicing at the Arkansas Children's Hospital, 804 Wolfe Street in Little Rock.

Dr. Carl L. Nelson, Jr.

Dr. Carl Lee Nelson, Jr., has been added to the membership roll of the Pulaski County Medical Society. Dr. Nelson is a native of Lowell, Indiana.

He received his B.S. degree in 1955 from Purdue University in West Lafayette, Indiana. He graduated in 1959 from the Indiana University School of Medicine. Dr. Nelson interned at Los Angeles County General Hospital in Los Angeles, California. His residency work in general surgery and orthopaedic surgery was at the Cleveland Clinic in Cleveland, Ohio.

Dr. Nelson is professor and chairman of the department of orthopaedic surgery at the University of Arkansas College of Medicine in Little Rock. He is board certified by the American Academy of Orthopedic Surgeons.

Dr. Willard H. Pruitt

The Pulaski County Medical Society has announced that Dr. Willard Hirst Pruitt is a new member of that Society.

Dr. Pruitt attended the University of Arkansas at Fayetteville and then entered the University of Arkansas School of Medicine in Little Rock, from which he received a M.D. degree in 1946. He completed his internship at St. Vincent's Infirmary and also completed his residency in general surgery there. Dr. Pruitt is a family practitioner at 1700 West 13th Street in Little Rock.

Dr. Fred T. Robertson

A new member of the Pulaski County Medical Society is Dr. Fred Thomas Robertson. Dr. Robertson is a native of Searcy, Arkansas, and attended the University of Central Arkansas at Conway from 1962 to 1965. In 1969, Dr. Robertson was graduated from the University of Arkansas School of Medicine in Little Rock. He interned at Denver General Hospital in Denver, Colorado. Dr. Robertson's residency work in internal medicine was at the University Hospital in Little Rock.

Dr. Robertson is practicing internal medicine at the Doctors Building, 500 South University in Little Rock.

Pulaski County

The Pulaski County Medical Society has added Dr. James O. Day as a resident member. Dr. Day is a first year internal medicine resident at the University of Arkansas College of Medicine.

DOCTOR.....Support Your Medical Education Foundation For Arkansas.

**Remember M.E.F.F.A. when you want to make
memorial contributions. Acknowledgements are
made to the family. Contributions are tax
deductible.**

**Your Medical Education Foundation needs your
financial support in attaining its goals.**

Contributions may be mailed to:

M.E.F.F.A.

Post Office Box 1208

Fort Smith, Arkansas 72901

May, 1976

THE JOURNAL OF

Arkansas MEDICAL SOCIETY

Vol. 72 No. 12

FORT SMITH, ARKANSAS

New from Lilly/Dista Research

NALFON[®]
fenoprofen calcium

300-mg.* Pulvules[®]



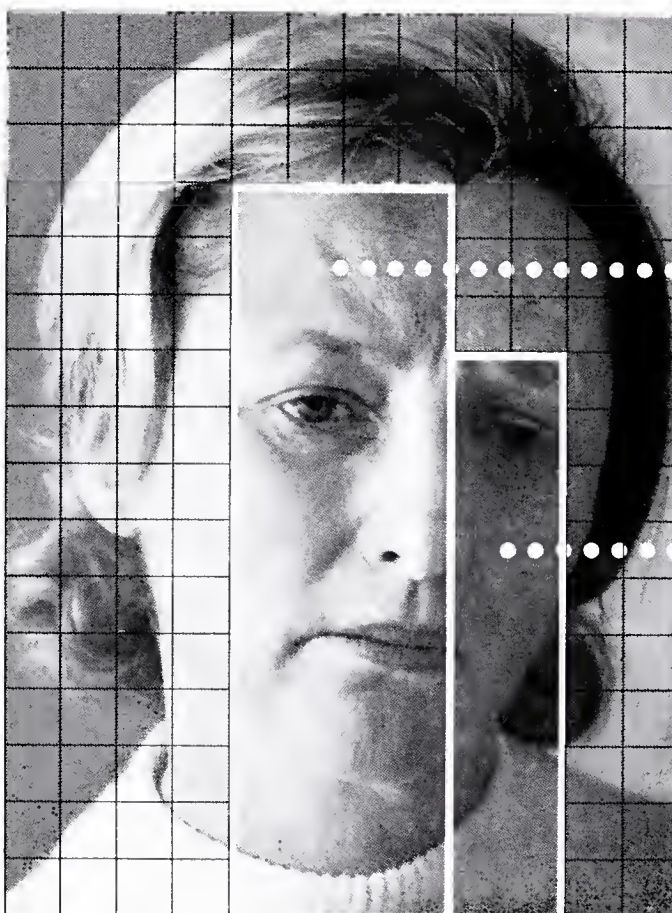
Dista Products Company
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

*Additional information available to the profession
on request.*

*Present as 345.9 mg. of the calcium salt of fenoprofen dihydrate,
equivalent to 300 mg. fenoprofen.

LIBRARY
U.C. SAN FRANCISCO
JUN 3 1976

Both often



- Predominant psychoneurotic anxiety

- Associated depressive symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent

in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium[®]
(diazepam) [Ⓢ]

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

THE
JOURNAL OF THE

Arkansas

MEDICAL SOCIETY

Owned by
THE ARKANSAS MEDICAL SOCIETY
And Published Under Direction of the Council

ALFRED KAHN, JR., M.D., Editor
1300 West Sixth Street Little Rock, Arkansas
MR. PAUL C. SCHAEFER, Business Manager
214 North 12th Street Fort Smith, Arkansas
LITTLE ROCK BUSINESS OFFICE
114 E. Second St. Little Rock, Arkansas

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY

A. S. KOENIG, JR., President Fort Smith
W. PAYTON KOLB, President-Elect Little Rock
MAHLON MARIS, First Vice President Harrison
BOYCE WEST, Second Vice President Clarksville
JOHN HESTIR, Third Vice President DeWitt
ELVIN SHUFFIELD, Secretary Little Rock
KENNETH R. DUZAN, Treasurer El Dorado
AMAIL CHUDY, Speaker,
House of Delegates North Little Rock
ASA CROW, Vice Speaker,
House of Delegates Paragould
ALFRED KAHN, JR., Journal Editor Little Rock
C. C. LONG, Delegate to AMA Fort Smith
PURCELL SMITH, Delegate to AMA Little Rock
JOE VERSER, Alternate Delegate to AMA Harrisburg
T. E. TOWNSEND, Alternate Delegate to AMA Pine Bluff
MR. PAUL C. SCHAEFER, Executive Vice President,
P. O. Box 1208 Fort Smith

COUNCILORS

First District *ELDON FAIRLEY Osceola
JOHN B. KIRKLEY Jonesboro
Second District *PAUL GRAY Batesville
JOHN E. BELL Searcy
Third District *L. J. P. BELL Helena
FRED C. INMAN, JR. Carlisle
Fourth District *RAYMOND IRWIN Pine Bluff
JOHN P. BURGE Lake Village
Fifth District *J. B. JAMESON, JR. Camden
JOHN H. MOORE El Dorado
Sixth District *C. LYNN HARRIS Hope
A. E. ANDREWS Texarkana
Seventh District *ROBERT F. McCRARY Hot Springs
CURTIS CLARK Sheridan
Eighth District *WILLIAM S. ORR, JR. Little Rock
W. RAY JOUETT Little Rock
Ninth District *MORRIS M. HENRY Fayetteville
RHYS WILLIAMS Harrison
Tenth District *KEMAL KUTAIT Fort Smith
CHARLES F. WILKINS, JR. Russellville

*Senior Councilor

The Advertising policy of this JOURNAL is governed by the PRINCIPLES OF ADVERTISING of the State Medical Journal Advertising Bureau, Inc., by the Advertising Committee of the Bureau and by the Council of the Arkansas Medical Society.

EXCLUSIVE PUBLICATION—Articles are accepted for publication on the condition that they are contributed solely to this JOURNAL.

COPYRIGHT 1976—By the JOURNAL of the Arkansas Medical Society.

NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

SCIENTIFIC ARTICLES

A Multidisciplinary Neuroscience
Course With Ongoing
Program Evaluation 481
Harry L. Ackerman, Ph.D.,
Warren Boop, M.D.,
Ture W. Schoultz, Ph.D.,
and Paul Woodworth, Ph.D.
Intraocular Lenses 486
F. Hampton Roy, M.D.
Some Recent Advances in
Diagnostic Radiology 489
Jack G. Rabinowitz, M.D.

FEATURES

Office Orthopaedics:
“Arthrography of the Knee” 493
(a follow-up study)
Philip H. Johnson, M.D.
EKG of the Month 498
Malcolm B. Pearce, M.D.
Arkansas Public Health At a Glance,
“Viral Encephalitis” 499
Harvie R. Ellis, D.V.M.
Editorial: “Cell Membranes” 500
Alfred Kahn, Jr., M.D.
Medicine in the News 502
Things to Come 505
Obituary 505
Personal and News Items 506
Woman’s Auxiliary 506
Proceedings of Societies 507
New Members 508
Resolutions 509
Index 510

Notice on Form 3579 to be sent to Arkansas Medical Society, P. O. Box 1208, Fort Smith, Arkansas 72901. Published monthly under direction of the Council, Arkansas Medical Society, Volume 72, No. 12. Subscription \$2.00 a year. Single copies 50 cents. Entered as second class matter, May 1, 1955, in the post office at Little Rock, Arkansas, under the Act of Congress of March, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 1, 1918. Second-class postage paid at Little Rock, Arkansas.

A Multidisciplinary Neuroscience Course with Ongoing Program Evaluation

Harry L. Ackerman, Ph.D., Warren Boop, M.D.,
Ture W. Schoultz, Ph.D., and Paul Woodworth, Ph.D.*

ABSTRACT

Several years ago the faculty of the University of Arkansas College of Medicine redesigned their approach to teaching the basic neural sciences by integrating them into a freshman-level Neuroscience course. The primary goal of the course was to provide students with basic science information for application in solving clinical problems. This paper contains a description of the course design, and describes several major instructional techniques including a comprehensive course manual, the use of television in both laboratory and lecture, and the use of the clinical examination as a positive motivational tool. Also, a student-based program evaluation process is detailed.

Traditionally, instruction in the neural sciences has been given independently by preclinical and clinical departments during different years of a student's medical education. Only recently have attempts been made by such clinical departments as Neurology and Neurosurgery to begin teaching in the preclinical years.¹ Several years ago the University of Arkansas College of Medicine initiated an integrated Neuroscience course in the freshman year which was taught by a faculty from the basic science departments of Anatomy, Physiology, Pharmacology and Pathology, as well as clinicians from the Departments of Neurology and Neurosurgery. The goal of such a course was to provide students with basic science information; at the same time they were

asked to apply it in solving clinical problems and actually conducting a neurological examination. The later clinical years then could be designed to reinforce the students' knowledge and expose them to a greater experience through direct patient contact. Several instructional techniques used in the Neuroscience course, as well as an evaluation process, will be described.

A freshman class consists of 120 medical and approximately 12 graduate students. They all enter Neuroscience with a limited background in the terminology and concepts of the body of knowledge; consequently, major attention is focused on basic neuroanatomy, neurophysiology, and an introduction to clinical neurology and the neurological examination. However, freshmen are introduced to material which is covered in more detail in portions of courses in pharmacology, pathology, and biochemistry. Although faculty from many departments lecture on topics in areas of their own expertise, a majority of topics are taught by four staff members to ensure continuity and comprehensive content. The Neuroscience course is designed to fulfill the following objectives:

- (1) to provide students with information and experiences which will assist them in utilizing the symptoms and signs of the patient for ascertaining the functional status of his nervous system;
- (2) to provide students with demonstrations of, and experience in, the procedures employed in differential diagnosis;
- (3) to provide sufficient basic information in the neurosciences to enable students to proceed successfully through courses in physiology, pathology, physical diagnosis, pharmacology, surgery and medicine;

*Presently Dr. Ackerman is Director of the Division of Biomedical Communications; Dr. Boop is Associate Professor of Neurosurgery, College of Medicine; Dr. Schoultz is Assistant Professor of Anatomy, College of Medicine; Dr. Woodworth is an Instructional Development Specialist in the Division of Biomedical Communications. All are presently on the faculty of the University of Arkansas for Medical Sciences, 4301 West Markham Street, Little Rock, Arkansas 72201. Drs. Boop and Schoultz are co-chairmen of the Neuroscience course.

- (4) to introduce students to the use of basic and clinical neuroscience literature so that they will be able to keep abreast of this source of information during their medical education and professional life.

Instructional Experiences

Using the course manual as a guide, students are introduced to material in lectures, laboratories, clinical demonstrations and review sessions. Information concerning the anatomy, physiology, and clinical neurology of each particular neural system is integrated into a well-defined block of time. Instruction in each block is presented according to the following sequence: structure, function and clinical application. The course manual is organized chronologically and contains an outline for each lecture and a reading assignment, thereby allowing students access to future material so they may study Neuroscience at their own pace.

Since clinical material is presented last within each block, the clinical faculty are able to attend pertinent lectures and present clinical correlations and patients which closely follow the basic science material. For example, the general anatomy of the spinal cord is presented, followed by the function of muscle receptors and the physiology of reflexes. Subsequent lectures cover other sensory receptors and ascending pathways, and then descending pathways in the spinal cord. These lectures are followed immediately by a demonstration of the clinical examination of motor and sensory functions, utilizing patient presentations, and discussion of the functional anatomy and disorders of the spinal cord.

Similar blocks of time are used for brain stem and cranial nerves, cerebrum, cerebellum, the basal ganglia with thalamus and hypothalamus, and higher functions of the brain. Neuropathology correlates are presented where appropriate, such as Parkinsonism, a disease chosen to represent degenerative diseases of the basal ganglia. Early in the course, emphasis is placed on neurocytology, basic neuropathology, neuroembryology, neuroelectrophysiology and a discussion of the lower motor neuro unit from the clinical standpoint.

The course is organized to make possible utilization of the laboratory for presenting material related to the lecture topic and, more specifically, to allow more lecture time for concepts of

structure and function. Little lecture time is devoted to pure descriptive neuroanatomy. Laboratory protocols in the course manual include the following sections:

1. *Purpose* — a statement of the objectives of the lab session;
2. *New Vocabulary* — a list of anatomical structures to be studied during the lab session;
3. *Materials* — items necessary for students to have for instruction; these include gross brain specimens, Weigert slides of brainstem, models, or demonstrations. The brainstem slide set is reproduced in the course manual atlas and can be used in lieu of slides;
4. *Today's Project* — a comprehensive description of how students should proceed and what should be observed as they follow the steps through the project assigned for the day;
5. *Clinical and Pathological Problems* — a problem set for student use to reinforce recognition of anatomical and functional patterns.

A particularly effective instructional resource for laboratory use is television. To utilize faculty and student time most efficiently, a demonstration of the material in the protocol is televised to all students at the beginning of the lab and is presented at a pace with which the class is comfortable. A closed-circuit color television system is utilized to implement this demonstration; students follow it on a monitor near them while simultaneously identifying the structures on their own material. The demonstrator is in the classroom rather than isolated from the class in a studio. Circulating lab instructors answer individual student's questions, or when it seems necessary to clarify a point for the whole class, these instructors contact the demonstrator through a wireless microphone and ask him to repeat or further explain the point. These "show and do" demonstrations last one hour, after which faculty circulate to answer questions as students continue to study the material. Five to seven faculty members are available for each laboratory, and the responsibility for the formal presentations is rotated.

Faculty believe the utilization of television allows more time for instructors to work closely

with students in the lab answering conceptual rather than procedural-type questions. Also, it is the consensus of faculty opinion that the use of television makes teaching in the laboratory more efficient for helping students to comprehend the information. Television has not had a dehumanizing effect on the teacher-student relationships; instead, use of it has increased the opportunity for contact of faculty with individual students.

Television is used also in lecture sessions. When patients are admitted to the University Hospital with clinical problems which could be useful illustrations in the Neuroscience course, it is possible to videotape them on the ward using a portable unit. The tape is then viewed by the students at the appropriate lecture during the course. More often, patients are brought into the lecture room, and a neurological examination is performed there. The portable television system is used to emphasize special points of interest that may not be visible to all persons in the lecture room. These sessions are all recorded on videotape for review by students and to provide for the growth of a collection of instructional materials.

Assessment of Student Performance

Optional review sessions, followed by comprehensive examinations, are the means of identifying problem areas and insuring faculty that students are keeping abreast of the instructional material. During the eleven-week course, students are examined using three different types of tests. All didactic examinations are in the National Board Examination format and are machine scored. Computerized item analysis is used to statistically validate examination questions over several semesters.

The laboratory examinations are short-answer practicals. These tests consist of tagged structures, x-rays or the Weigert brain stem sections. Students either identify the structure or answer a question about its function.

Finally, the clinical faculty tests each student on his ability to perform a clinical neurological examination and localize pathologic processes. Both in-patients and out-patients of the Neurological and Neurosurgical Departments are utilized for this examination. Successful completion of this exam is a major goal of the course and provides faculty with information on the ef-

fectiveness of instruction in helping students to solve clinical problems with basic neuroscience information. Conducting this examination requires time and effort from the clinical faculty members. However, these faculty members feel this experience should be provided because of the positive impact on the motivation of students.

By the end of the course, the transition from basic science to clinical application has been completed, and students are eager for further clinical exposure to broaden their experience. Graduate students, who are not continuing into clinical medicine, also benefit by gaining insight into the problems of clinical medicine before they are involved as instructors in similar courses. The need for continued reference to new or unexplored basic science material is apparent to both medical and graduate students.

Program Evaluation

A significant component of the Neuroscience course is the student-based program evaluation. The Neuroscience faculty requested the Division of Biomedical Communications to assign an Instructional Development Specialist (evaluator) to design and conduct an evaluation of the course. This request was based on three faculty desires: (1) to conduct the course in a manner to assure each student the highest possible opportunity for success; (2) to gain information about the effectiveness of each planned instructional experience; (3) to have an objective third party obtain information that may not have been acquired in course evaluations previously conducted by the faculty.

Formative evaluation was selected as the process for evaluating the course. Formative evaluation may be conceptualized as the process wherein developers of prototype instructional systems collect and analyze information for purposes of correcting system deficiencies.² It also is particularly useful to identify and gauge "side" effects and unanticipated phenomena in the instructional environment.

The formative evaluation plan devised for the Neuroscience course utilized students as the primary source of information. They were responsible for providing attitudinal data on the effectiveness of each instructional experience and their performances on tests were subjected to analyses. Information obtained from these ac-

tivities was then communicated to faculty for making decisions to modify teaching methods and/or the structure of the course as it progressed. The general areas considered in the assessment included: (1) effectiveness of instructors' teaching styles, (2) instructional experiences and materials, (3) design of the course, (4) student performance on examinations, and (5) the program evaluation process itself.

Three techniques were employed to gain information: (1) attitudinal questionnaires; (2) student conferences; and (3) test-item analysis. Since students were the primary source of information, each was given an opportunity to evaluate a portion of the course; thus all students were involved rather than a random sampling of the class. The class was divided into seven groups of 19 students. Each group was asked to complete an attitudinal questionnaire for specific lecture and laboratory sessions and to attend a weekly conference with the Instructional Development Specialist. Since a number of faculty were responsible for teaching various Neuroscience topics, daily evaluation was necessary to collect the most reliable data. Items on the questionnaire were compiled from reviews of previous Neuroscience questionnaires, literature on program evaluation^{2,3,4} and in consultation with faculty. Student conferences, the second technique, were conducted in order to explore further the data gathered from the daily questionnaires. Finally, the effectiveness of each instructional experience in helping students gain cognitive information was scrutinized through a test-item analysis of student performance on objective tests. The results of the questionnaires, conferences and test-item analyses were reported in writing to the faculty by the evaluator. He was available for discussion, and to offer suggestions and assistance to faculty for alternative instructional techniques.

After the course, the entire class completed a final questionnaire and attended a conference. Questionnaire items and the final conference discussion centered around primary concerns of the students identified from the daily questionnaires and from the weekly student conferences. Based on results obtained from the final conference, the Instructional Development Specialist then recommended alternative instructional techniques to the faculty.

During the course, unanticipated results of the program evaluation were perceived and were confirmed in the final data. One unanticipated phenomenon or "side" effect, was a unique role for the evaluator. By being knowledgeable of most aspects of the course, and by being in continuous communication with both faculty and students, he was able to provide each group with explanations of the other's behavior. Confusing and problematical situations were clarified for both students and faculty. This ombudsman-type role helped to relieve some of the normal frustrations of most students and contributed to creating a positive feeling for the course.

Upon completion of the course, the Instructional Development Specialist requested the faculty to assess the evaluation program. Though the Neuroscience faculty judged it to have produced information that otherwise would have been unattainable, it was recommended that certain aspects of the process be revised for greater effectiveness in future projects. The faculty recommended that the Instructional Development Specialist:

- (1) formulate regularly scheduled faculty conferences to clarify and discuss results and to explore alternative teaching strategies when necessary;
- (2) work with faculty to develop mutually agreed upon criteria to gauge teaching effectiveness;
- (3) attend all lecture and laboratory sessions to assess teaching performances;
- (4) devise a program and/or strategies for assisting faculty to develop more effective teaching methods;
- (5) include criteria for faculty peer review.

The third party evaluator, through the students, was able to provide faculty with information on the effectiveness of instructor teaching styles, planned instructional experiences and materials, and course structure. The positive aspects of the course were delineated and exploited. The negative aspects were either dealt with immediately by the faculty or procedures for solving them were planned. As a result of their active participation, students became aware of some of the constraints faculty face in conducting a course. They also contributed to improving the

course for themselves as well as for students who will follow them. Most importantly, the program evaluation provided faculty with information enabling them to increase the effectiveness of the course as it progressed, thus assuring each student the highest possible opportunity for success.

REFERENCES

1. Talalla, A., Bonfford, J. I., and Lass, S. L. An integrated Clinical Correlation Course in the Neurosciences for First-Year Medical Students. *J. Med. Ed.* 49:253-263, 1974.
2. Abedor, A. J. Development and Empirical Test of A Model for Formative Evaluation of Self-Instructional Multi-Media Learning Systems. Doctoral Dissertation, Michigan State University, 1972.
3. Evaluation of Education, Number 11. *Educational Technology Review Series*, Englewood Cliffs, N. J., Educational Technology Publications, 1973.
4. Scriven, M. The Methodology of Evaluation. In *New Curricula*, R. Health, ed., New York, Harper & Row, pp. 231-248, 1964.



Intraocular Lenses

F. Hampton Roy, M.D.*

The major indication for intraocular lenses is to replace the lens that has been taken out of the eye. The lens is taken out of the eye when the lens is cloudy. This is called a cataract. Following cataract extraction, there are three ways that the individual can be visually rehabilitated. First by aphakia spectacle glasses. The second way is with contact lenses and the third way is with the lens inside the eye (intraocular lenses).

In 1949, Dr. Harold Ridley of London was doing routine cataract extractions and several important factors came together. During World War II, he had seen pilots, who had flown for the Royal Air Force and as machine gun fire came through their plastic canopy, pieces of plastic lodged in the eye. He had seen how inert these pieces of plastic were and when a medical student asked him, "when you took the cloudy lens from the inside of the eye, why didn't you go ahead and replace the lens back inside of the eye." It was at that point that Harold Ridley designed the first intraocular lens which thrust us into a new era. The lenses, which he originally designed, met with many complications, including glaucoma, corneal difficulty, and dislocation into the vitreous cavity. There was a large number of lens designs that were tried during the 1950s.^{2,3} There were enough complications, such that the American Academy of Ophthalmology in 1955 passed a resolution banning the use of intraocular lenses for American ophthalmologists.

Individuals in Holland, Germany and England continued to make modifications of intraocular lenses and use them. It is with the third generation of intraocular lenses that we are now dealing. It has been within the last five years that individuals, both on the east and west coast of the United States, have started using intraocular lenses and have met with the same type of excellent visual rehabilitation that individuals in Europe have experienced over the last several years.⁴ The polymethylmethacrylate has been

used from the first Ridley lens and has been found to be relatively inert with a low monomer content.

TYPES OF INTRAOCULAR LENSES

The most convenient classification is according to the method of fixation.

1. *ANTERIOR CHAMBER FIXATION* — the fixation device is held in place in the anterior chamber or externally. The optical portion is aligned with the pupillary aperture, anterior to the plane of the iris.

- Solid type (Strampelli, Choyce) (Fig. 1)
- Fenestrated type (Boberg-Ans, Cogan)
- Fenestrated semi-rigid type (Boberg-Ans, Barraquer)
- Lens supported by legs (three legs: Ridley,

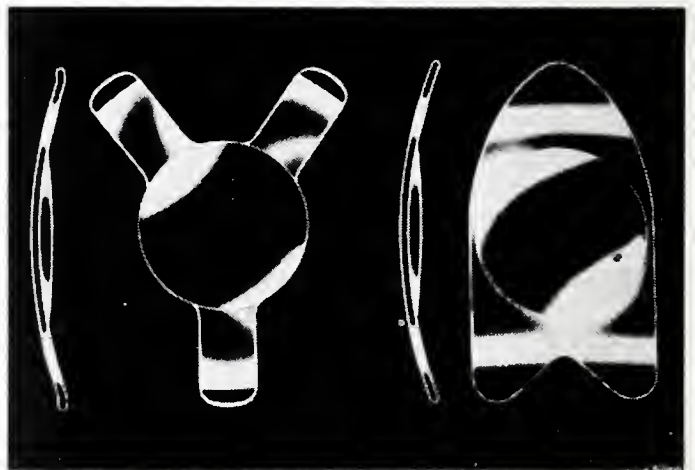


Figure 1.
a. Anterior chamber lens (Strampelli type) of Choyce (Mark II);
b. Anterior chamber lens of Harold Ridley (Mark II). (Courtesy of Rayner, London)



Figure 2.
Fenestrated, semirigid anterior chamber lens of Boberg. Ans modification by Joaquin Barraquer. (Courtesy of Rayner, London.)

*390 Medical Towers Building, Little Rock, Arkansas 72205. Clinical Associate Professor of Ophthalmology, University of Arkansas Medical Center, 4301 West Markham Street, Little Rock, Arkansas 72201.



Figure 3.
Elastic anterior chamber lens of Dannheim, modification by Joaquin Barraquer. (Courtesy of Rayner, London)

Apollonio; 4 legs: Scharf, Bietti; 2 legs: Schreck, Bietti, Parry)

- e. Lens supported by elastic slings (Danneheim, Barraquer) (Fig. 3)
- f. Lens suspended in threads, with extraocular fixation (Strampelli)

2. *IRIS FIXATION* — the fixation device is chiefly supported by the iris. The optical portion of the lens lies in the plane of the iris or just anterior or posterior to it.

- a. Binkhorst — four Dacron loops with two above and two below the iris (see figure 4)
- b. Iris — Plane (Epstein, Copeland) shaped like Maltese Cross with two of the arms below the iris and two above (see figure 5)
- c. Federov — three loops which fit behind the iris and three small prongs between each loop which rest on the anterior surface of the iris.
- d. Worst — one lens sutured to iris and the other lens clips to the iris.



Figure 4.
Iris-clip lens of C. D. Binkhorst. (Courtesy of Rayner, London)

- e. Epstein — collar-stud (figure 6)
- f. Iseikonic, weightless (Troutman, Weinstein)

3. *IRIDOCAPSULAR* — capsular fixation — lens is supported by the iris and the capsule of the lens. Lenses implanted after extracapsular extraction.

- a. Ridley — original lens implanted (figure 7)
- b. Binkhorst — two loop lens

*The major types of lens currently in use in the United States are Worst (iris suture and iris clip), Binkhorst (two and four loop) and Copeland.

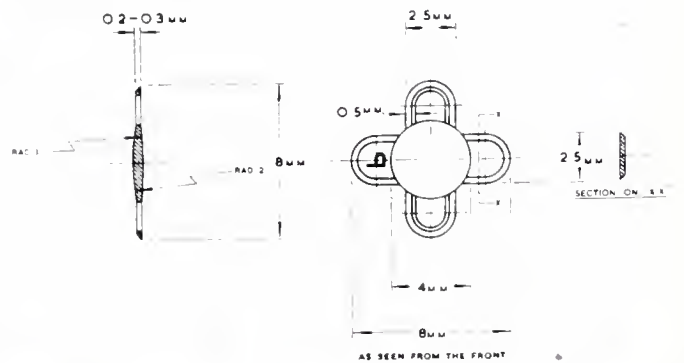


Figure 5.
Maltese lens (Epstein, Copeland).

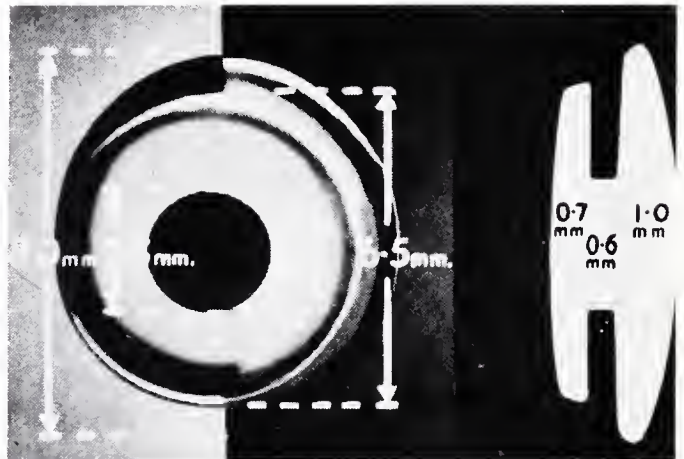


Figure 6.
Collar-stud lens of Epstein. (Courtesy of Rayner, London)

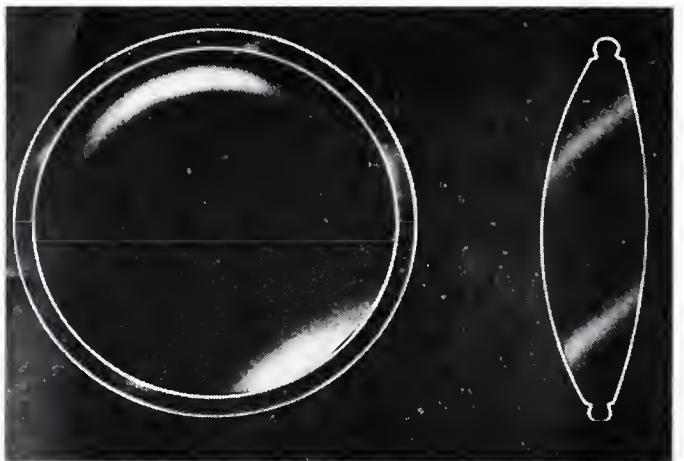


Figure 7.
Posterior chamber "artificial crystalline lens of Harold Ridley." (Courtesy of Rayner, London)

COMPARISON CHART OF VARIOUS TYPES OF OPTICAL CORRECTIONS
FOLLOWING CATARACT EXTRACTION

	<i>Intraocular Lens</i>	<i>Contact Lens</i>	<i>Glasses</i>
Visual Fields	Full	Full	Tunnel Vision Peripheral distortion Ring scotoma
Image Size Magnification	1-2%	7-10%	30-35%
Twenty-four Hour Use	Yes	No	No
Good Uncorrected Vision	Yes	No	No
Flare	No	Yes	Not Usually
Prismatic Displacement	No	Yes	Yes
Binocularity (use of both eyes)	Almost Always	Frequently	Frequently
Depth Perception	85%	About 50%	About 50%
Useful in work environments with dust and chemicals	Yes	No	Usually
Reliable, prevents amblyopia in childhood cataracts	Yes	No	No
Suitable for patients with tremor, neurosis, conjunctival problems, etc.	Yes	Yes	Yes
Requires dexterity on the patient's part	No	Yes	No
Useful for the remainder of the patient's life	Yes	Not Likely	Not Likely

Indications and contraindications are still being debated and the following are my guidelines.^{6,7}

General indications for intraocular lens include:

- 1) Senile cataract
- 2) Traumatic cataract
- 3) Congenital and juvenile cataract

Strong indications include:

- 1) Advanced age
- 2) Special motivation as professional, driving, or work in dusty environment where glasses or contacts are inappropriate
- 3) Previous glaucoma surgery
- 4) Myopia
- 5) Senile macular degeneration
- 6) Corneal endothelial weakness

Contraindications to implanting an intraocular lens include:

- 1) Eye disease as uveitis, secondary glaucoma, rubeosis iridis and retinal detachment

2) Simultaneous glaucoma surgery (usually glaucoma surgery then cataract extraction with implant)

3) Iris abnormalities as iris atrophy or Aniridia

REFERENCES

1. Ridley, H.: Intra-ocular acrylic lenses. Tr. Ophthalm. Soc. U. Kingdom 71:617, 1951.
2. Choyce, D. P.: Long-term tolerance of Choyce MK I and MK VIII anterior chamber implants. Proc. Roy. Soc. Med. 63:310-313, 1970.
3. Choyce, D. P.: History of Intraocular Implants. Ann. Ophth. 5:1113-1120, 1973 (Oct.).
4. Jaffe, N. S.: Current status of Intraocular Lenses. EENT Monthly 51:290-6, 1972.
5. Federov, S. N.: Methods employed to fix intraocular lenses. Vestn. Oftalmol. 3:38, 1969.
6. Binkhorst, C. D.: The Iridocapsular (two-loop) Lens and the Iris-clip (four-loop) Lens in pseudophakia. Trans. Am. Acad. Ophth. & Otolaryngol. 77:589-617, 1973.
7. Binkhorst, C. D.: Iris-clip and irido-capsular lens implants (pseudophakia) Br. J. Ophthalmol. 51:767-771, 1967.



Some Recent Advances In Diagnostic Radiology**

Jack G. Rabinowitz, M.D.*

Eighty years ago, in the year 1895, following a set of fortunate coincidences, Dr. William Conrad Roentgen discovered the X-Ray. Dr. Roentgen at that time was investigating the behavior of cathode rays or electrons in high energy tension tubes. The cathode ray tube was enclosed within a glass envelope and a faint light was produced when a high voltage discharge was passed through this tube. To block this light from escaping and to block other light sources from entering the tube, he darkened the room and enclosed the tube within a cardboard cover. During one of his experiments he noticed a faint light glowing on a workbench located a few feet away. The source of this light was the fluorescence emanating from a small piece of paper coated with barium platinocyanide. As luck is always associated with the great mind, Dr. Roentgen immediately realized that since the electrons produced within the tube could not penetrate the glass envelope and since the cardboard surrounding this tube permitted no light to pass in or out, a powerful unknown ray of some type was produced when the cathode ray tube was energized. He termed this unknown ray the "X-Ray." As fascinating as this story is, a few investigators before him had already noticed and described this phenomenon as well as many other related features. Unfortunately, these investigators considered the findings to be properties of the cathode ray. Since Dr. Roentgen was the first to recognize this extraordinary feature as new and different, modern medicine has given him due credit by not only retaining the term "X-Ray" but also at times using the name Roentgen in the description and measurement of the "X-Ray." Following his discovery, Dr. Roentgen prepared a number of manuscripts describing his experiments relating to the physical properties of the X-Ray. This contribution won him the Nobel Prize for physics in 1901.

In this short period he described the most important properties of this newly discovered ray:

a) the capacity to fluoresce a fluorescent material

b) the capacity to expose a photographic film
c) and most important, the capacity to penetrate tissues and substances.

As we are all aware, the introduction of the X-Ray in the field of medicine revolutionized and expanded all diagnostic and therapeutic horizons. The X-Ray gave us the capacity to begin to visualize and understand disease as it existed in the human body. As equipment required for producing and utilizing the X-Ray became more and more sophisticated, and the X-Ray film more and more sensitive, diagnostic radiology advanced in great strides. With the introduction of non-toxic contrast materials into the gastro-intestinal tract or into the vascular system, pathologic alterations of many internal structures as well as the vascular system itself were better defined. Each passing year still introduces newer ideas and techniques despite all the remarkable progress that has transpired during the past 80 years since its discovery. Today I would like to acquaint you with just a few advances that have occurred in the last few years. Time and space limits the amount of the discussion.

NON-INVASIVE TECHNIQUES

In the field of non-invasive radiology, efforts in the last years have been directed towards improving the final image transmitted by the X-Ray. The newest and most exciting and innovative in this regard is called "computerized axial tomography." Other recent improvements in imaging techniques have been Xerroradiography and Xonics.

Present-day X-Ray examinations in general depend on an image that is produced on a standard X-Ray film. This is formed by the x-rays transmitted through the patient's body and in principle resembles the process of light photography. Unfortunately despite its simplicity, this is a limited process, since a broad range of attenuation values are compressed into a small range of densities that extend on the film from lucent to opaque. In fact, for many years we have lived with the dictum that water and soft tissue densities are similar in attenuation and therefore cannot be differentiated. Since organ structure and contours are recognized by varia-

*Professor and Chairman, University of Tennessee Center for the Health Sciences, Department of Diagnostic Radiology, 865 Jefferson, Memphis, Tennessee.

**Presented at the annual meeting of the Arkansas Medical Society, April 20-23, 1975, Hot Springs, Arkansas.

tions in tissue densities, considerable changes must be present for us to recognize subtle soft tissue densities. Computerized axial tomography now gives us the opportunity to recognize subtle soft tissue densities by departing from the conventional method of X-Ray image in introducing electronics and computers between the X-Ray beam emanating from the patient and the final display. The latter now becomes a computer image.

The spectrum of response produced is then almost equivalent to that of the source. In addition, one may select small sections of interest in that spectrum according to programmed formulas and further magnify the differences within them. For example, the section of greatest interest is the soft tissue, which occupies only 5.5% of the scale of absorption values if water is designated as 0 and cortical bone as 100. This small variation cannot be differentiated in conventional radiography. However, when this amount is expanded by the electronic and computer interplay, the small variations become markedly magnified.

The anatomic area of interest, and presently this is the cranium, is scanned in successive layers by a narrow beam of X-Rays. Basically the design of the scanning gantry, in combination with the narrow collimated X-Ray beam, and the transmissions of X-Ray photons through the slice of tissue produce enough data for the computer to reconstruct approximately 25,600 absorption values in the scanning plane on a 160 x 160 element matrix. These values are expressed as absorption coefficients relative to the value of water which has been set at 0. The computer can store these, provide a printed numerical read-out or a CRT display in which these qualities are transmitted into shades of gray, or color. The results are thus qualitative and quantitative. The pictures obtained are looked at in the same way as a radiograph. Structures are identified in size, shape, and position and changes in density are searched for. Abnormal densities are then interpreted in the light of pathologic alterations that are known to occur, e.g. increased density may show up as a blood clot, or calcium; lower density as tissue necrosis, edema, cyst formation, recent hemorrhage, etc. In general, gliomas, metastatic disease, infarcts, and other abnormalities involving the brain have been detected, and diagnosed according to their position, variations

in densities and their effect upon other structures.

Since the introduction of computerized axial tomography into neuroradiology, by the EMI Ltd. Company in England, dramatic changes have occurred in the evaluation of patients suspected to have neurologic disorders. The simplicity and diagnostic accuracy of this equipment has spared the patient the tribulations of multiple diagnostic studies. This has reduced not only the financial burden inherent in prolonged and unnecessary hospitalization, but also the morbidity inherent in any invasive technique. As a result, many companies involved in the construction of X-Ray equipment are now working with feverish speed to design similar but more versatile instruments that will delineate tissue abnormalities throughout the entire body. Some prototypes are now functioning and it appears that we are standing on a new threshold in diagnostic radiology. Once accomplished you can well imagine the benefits that may be derived from total body X-Ray scanning. Demonstration of structures within the chest, neck, abdomen, or retroperitoneum and their corresponding pathologic alterations will again open new diagnostic avenues that so far have defied the best of our diagnostic capabilities.

Xerroradiography also introduced tremendous change in the field of X-Ray imaging by replacing the X-Ray film with a plate containing a photoconductive surface. This plate has an aluminum base upon which surface a thin layer of vitreous selenium, a photoconductor, is deposited. This surface is initially charged and then exposed conventionally to a transmitted X-Ray beam. The latter discharges the photoconductor in amounts corresponding to the attenuation of the primary beam, and produces on its surface an electrostatic charge pattern depicting the part examined. A powder image becomes visible after application of a toner, a blue finely divided charged plastic powder. By proper processing, this image is transferred to paper or plastic for permanent recording. Xerroradiography has been best used in delineating alterations in soft tissues. This has been given its greatest stress and produced its greatest success in the field of mammography. In the latter it has demonstrated greater resolution and better detail than conventional radiography.

Xonics is another recently introduced image technique that uses photoconductors in place of X-Ray films. This is still new and not yet commercially available. However, prototype equipment being presently tested in California promises exciting images of the body in the future.

In recent years the use of ultrasound has also become a well recognized diagnostic modality in medicine. Although not exactly new, improved and sophisticated instrumentation has dramatically increased its diagnostic capabilities to the point that it is now extensively used in cardiology, obstetrics, neurology and ophthalmology. Ultrasound waves are produced by a transducer which contains a piezoelectric crystal. This crystal is placed over the area of interest and an alternating current is then passed through that causes the crystal to vibrate rapidly and change shape. By so doing the crystal emits a sound wave of high frequency for a period of approximately 1 second (1-5 million cycles). The electric current is then turned off for approximately 900 microseconds during which time the same crystal then functions as a receiver for the sound waves, e.g. echos, that are reflected from the tissues. These echos cause the crystal to vibrate and again change shape. This time sound energy is converted into electrical energy that is now processed and displayed on an oscilloscope. By placing the transducer over the heart and with proper angulation, sound waves will be reflected from various different planes within the cardiac structure. As a result, cardiac chamber diameters can be measured and motions of the valves, ventricular wall and septum can be determined. Analysis of these determinations have enabled us to diagnose various congenital and acquired cardiac diseases as well as abnormalities of cardiac function. It is probably, at present, the best method to diagnose minimal pericardial effusion and IHSS. In obstetrics ultrasound is utilized to detect early pregnancy, placenta location, the size of the fetus, etc. Recently, abdominal and retroperitoneal structures are being demonstrated although a fluid containing viscera are a poor transmitter of sound waves and have thus limited the ability to detect abdominal lesions. Nevertheless, it has become an important modality in determining the nature of many lesions. Cysts by nature of their inability to reflect sound are easily differentiated from solid tumors. Angio-

graphy has been spared in many situations, particularly the kidney.

INVASIVE TECHNIQUES

As far as invasive techniques in diagnostic radiology are concerned, the field of angiography has undergone enormous advancements and improvements during the last 15 years. Investigative diagnostic angiographic modalities have moved rapidly from the initial high bolus venous injections into the skilled and sophisticated intra-arterial catheter injections. By this means, detailed analysis of the vascular bed has greatly improved our understanding of cardiovascular disorders, tumor behavior and morphology, as well as many inflammatory and other diseases. All this has simultaneously aided the development of medical and surgical treatment of disease related to these systems, e.g. ischemic heart disease, congenital heart disease, etc. In the last years, angiography with more particular super selective catheter placement has become a vital part in the emergency treatment of patients with acute hemorrhage. This is extremely useful in cases of massive gastro-intestinal hemorrhage or bleeding following trauma. Previously, the surgeon in these situations was faced with the dilemma of either a probable location for the site of bleeding or with a search and hopefully find situation.

The angiographer can now with selective catheterization frequently identify the site of bleeding. Recognition of the opaque material puddling within the lumen of the bowel or extravasating adjacent to a vessel is enough evidence to locate the bleeding vessel. This is frequently all that is required for the surgeon to pursue. However, once the angiographer moved into firing range by properly locating the bleeding site, it was only a small giant step for him to advance from a diagnostician to a therapist. It was now a simple matter to commence intra-arterial infusions of vasoconstrictive materials. One such drug, e.g. vasopressin has controlled the bleeding in approximately 55% of the cases. More recently, selective injection of autologous blood clots have been added to the therapy list. Consequently, hemorrhage resulting from duodenal, gastric, or small bowel disease and A-V malformation are now being treated by the angiographer. More recently arterial hemorrhage following trauma has also become an acute

radiologic emergency procedure. In one case, a young man presented with massive renal hemorrhage one week after he had been stabbed. Angiography revealed a large A-V malformation arising in the lower pole of the left kidney that was being fed by a supplementary renal artery. Autologous clot was injected and the aneurysm was promptly occluded. The patient was thus spared surgery and the possible loss of part or all of his kidney.

Dotter et al have recently introduced a highly imaginative non-operative angiographic vascular procedure. They have termed this "transluminal iliac artery dilatation." This is a form of revascularization that may prove worthwhile in the future in managing ischemia caused by arteriosclerotic narrowing. Actual dilatation is performed by introducing a balloon cannula with the balloon positioned within the narrow segment. This is distended with contrast agent and the atheromatous plaque pressed against the outer wall, thus opening the vessel lumen. In treating 48 different stenotic iliac arteries, 39 had lasting improvement seen angiographically and clinically.

In general, most catheters are selectively manipulated by hand into the desired small vessels under the image intensifier. In so doing, flow guidance flexible small catheters are used. Flow guidance catheters are limited by lack of control of the catheter tip and the geometry of the vessels at their branching points. In an effort to im-

prove upon this, magnetically guided catheters are now being devised. These catheters theoretically should provide better control. Some researchers are now guiding these catheters into very small and tortuous branches. They have thus managed to arrest the bleeding in aneurysms and A-V malformations in the brain where the other techniques could not be attempted. This radiologic technique has been worked on for approximately a decade. However, the recent innovation of better magnet catheters are now making it clinically practical and feasible.

In summary, most of these advances in radiology have been done through the combined imagination and association of radiologists, engineers and physicists. The present x-ray image produced by the x-radiation passing through the body and forming an image on a silver halid film may become a thing of the past. Nowadays this X-Ray image is being greatly improved by the addition of electronics, computers and photoconductor films. Our diagnostic accuracy has been further aided and improved through the addition of pharmacological agents that alter the physiology of the organs, vessels, etc. Marked changes in angiographic techniques now visualize small vessels throughout various parts of the body. This has resulted in a tremendous boom in the diagnosis and therapy of bleeding due to trauma, and with it both medicine and the field of radiology continue their forward progress. This occurs, however, hand in hand with the help of other scientific endeavors.



Office Orthopaedics

Arthrography of the Knee (a follow-up study)

Philip H. Johnson, M.D.*

Exploration of the internal structures of the knee by arthrography, in recent years, has proven to be of significant value. Lindblom² published his extensive experience with arthrography of the knee which has been an inspiration and guide for others to follow. Many investigators have added to this wealth of knowledge, contributing new techniques and interpretation. All have found the procedure of immeasurable value. In February 1975 our first 100 cases were presented with our initial results and conclusions.¹ This paper will deal with the first 200 cases performed over a four-year period of time.

TECHNIQUE

Little change in procedure has occurred over this four-year period of time. The knee joint is entered under sterile conditions and all fluid removed. Four cc of Renograffin-60 and 30-50 cc room air is injected (enough to mildly distend the suprapatellar pouch). The suprapatellar pouch is compressed with an ace bandage and the leg is placed in an adjustable thigh restraint. (Fig. 1) Fluoroscopy is carried out with a television monitor and spot films are made at intervals about the periphery of the menisci medially and laterally. Positive-contrast effect is produced with the patient supine and double-contrast is obtained with the patient prone. Recently a 70 mm camera has been used for the

permanent films. (Fig. 2) Better film contrast is possible with this technique and with less x-ray exposure. The final film strips are placed in plastic transparent holders for easy storage and viewing. (Fig. 3) Finally, plain films in A.P., lateral and skyline projections are made. (Fig. 4) Bony architecture, cartilagenous joint space and ligaments can be studied. Detail interpretation of the normal arthrogram has been discussed previously.¹

RESULTS

This study represents all arthrograms performed on patients of a five-man orthopedic practice by a single investigator. Table 1 shows several trends. Acceptance of this procedure is increasing and becoming more important in diagnosis of occult knee problems. The exam is being used as frequently to rule out internal derangement in vague knee problems as to confirm the presence and location of suspected in-

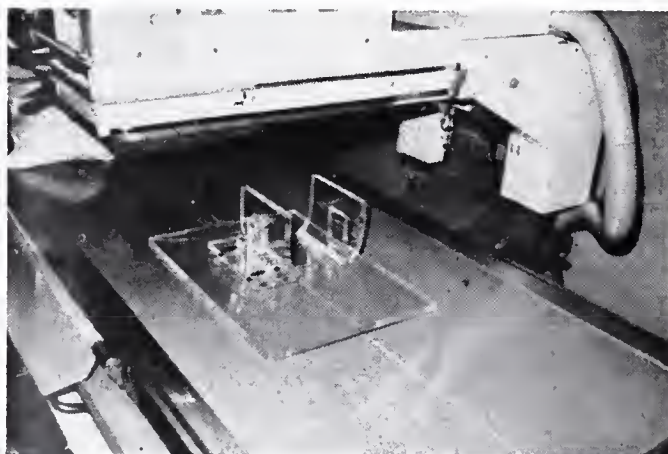


Figure 1.
Adjustable thigh restraint (Dr. Doyné Dodd).

*Little Rock Orthopedic Clinic, P.O. Box 5270, Little Rock, Arkansas 72205.

*I continue to be indebted to the Radiology Consultants at the Baptist Medical Center, Little Rock, Arkansas. Without their cooperation and continued support, this work could not have been possible.

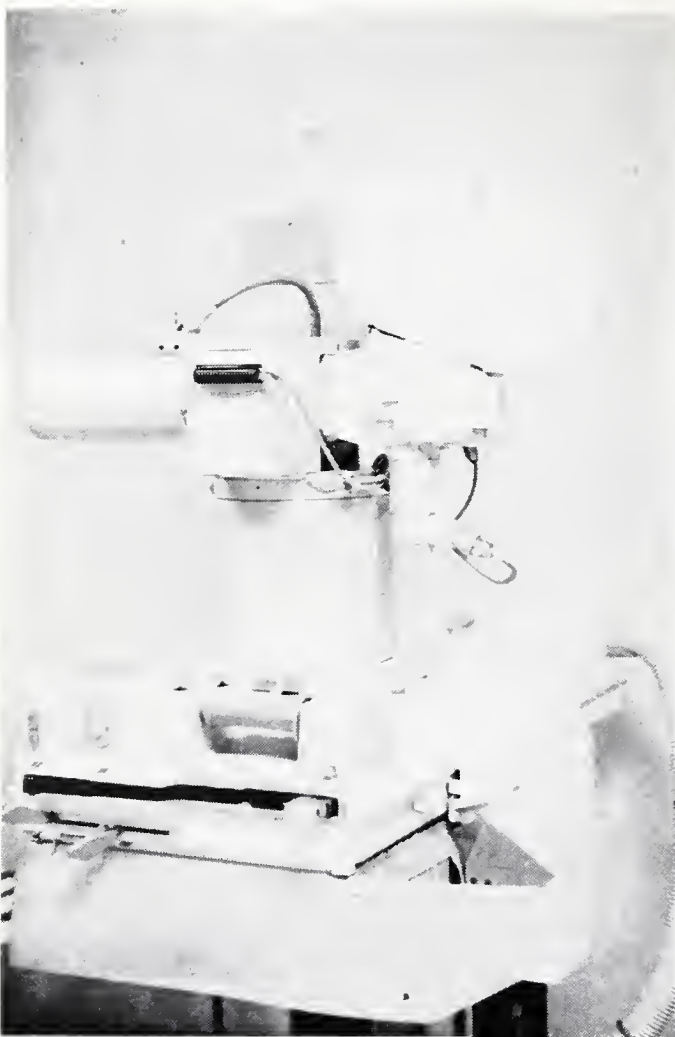


Figure 2.

The 70mm camera mounted above the fluoro unit.

jury. Hence, a lower percentage of cases have proven to be surgical candidates. A higher percentage of surgically confirmed findings with fewer false positives has been seen as experience

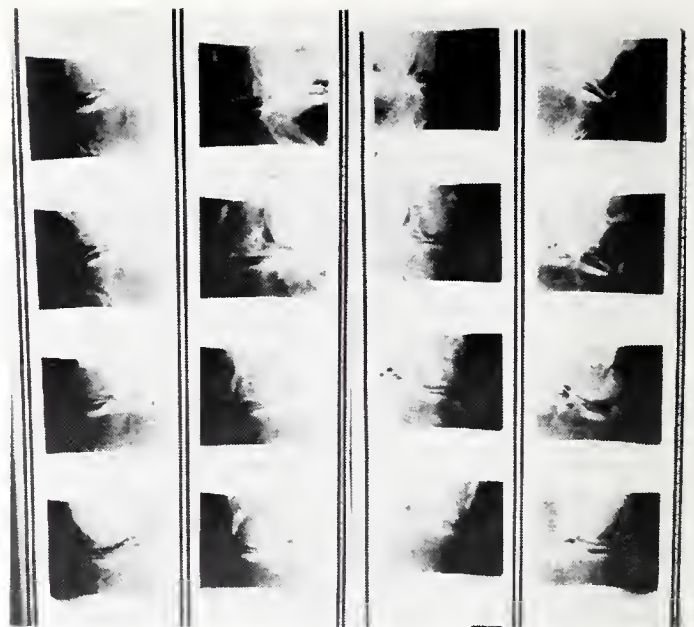


Figure 3.

Film holders for 70mm film are easily stored in the film jacket.

in interpretation grows. Ninety-one percent accuracy has been surgically verified but the real accuracy would seem much higher as many with significant injuries are treated non-operatively and recover completely. Eight diagnostic errors were found at surgery. The first six were discussed in the previous paper. The seventh was a medial menisectomy for torn meniscus which was negative at arthrography and in retrospect review of x-rays still shows no evidence of meniscus injury. The last was a detached lateral meniscus that was read as negative at arthrography.

Evaluation of the lateral meniscus is more difficult due to the popliteus sheath which com-

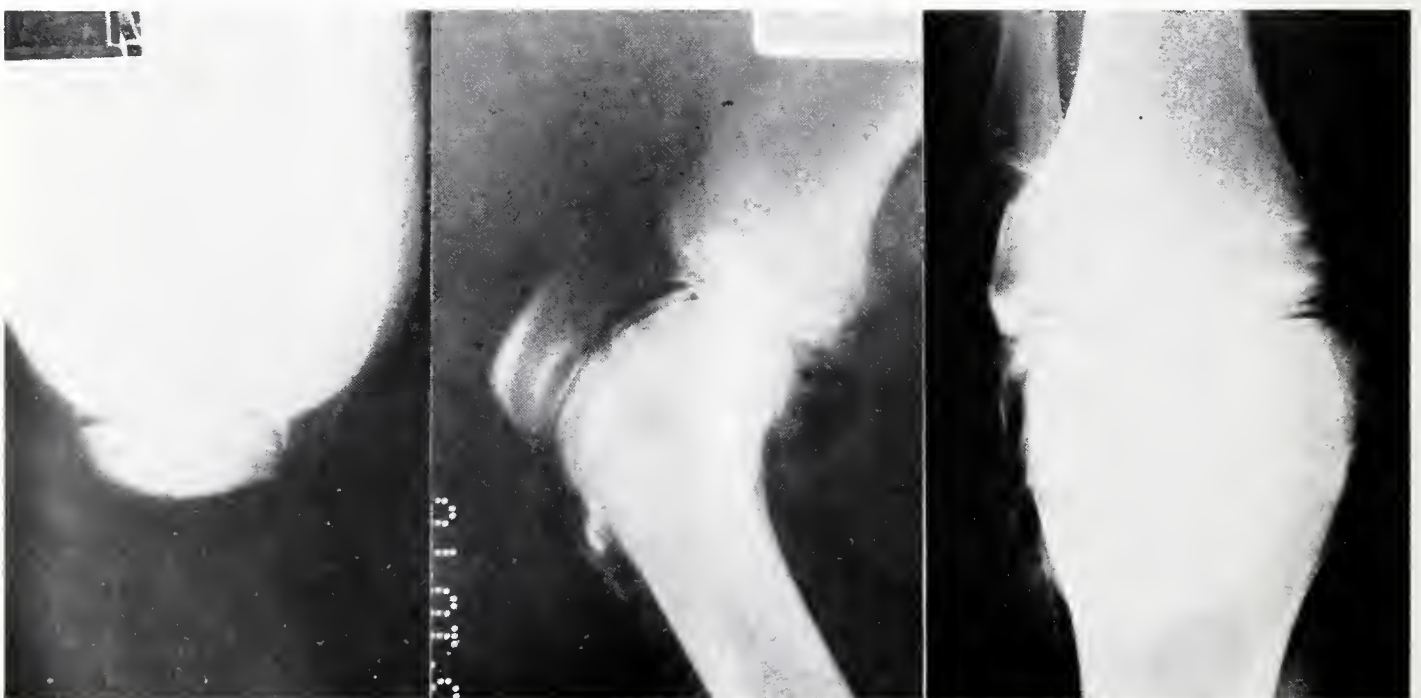


Figure 4.

Plain films done at the conclusion of fluoroscopy.

TABLE 1

	Total Cases	Surgery Advised No. of Cases	Operated No. of Cases	False Pos.	False Neg.	Surgical Confirmations
1972	22	14 (64%)	13 (50%)	1	1	11 (85%)
1973	26	12 (46%)	12 (46%)	1	0	11 (92%)
1974	56	25 (45%)	22 (39%)	1	2	19 (87%)
1975	106	45 (42%)	41 (39%)	0	2	39 (91%)
TOTALS	200	96	88	3	5	80 (91%)

municates with the joint above and below the meniscus. This sheath projects as a shadow across the meniscus in the posteriolateral quadrant. This interruption of the coronary ligament weakens the peripheral attachment of the posterior third of the lateral meniscus. McIntyre³ points out the rarity of tears into the body of the meniscus and the frequent occurrence of peripheral separation of the posterior horn. We have also found this to be a frequent occurrence with lateral meniscus injury. In the most posterior projection the meniscus is detached by posterior extension of the defect for the popliteus. Figure 5a shows the posterior one-third of a normal lateral meniscus. Note attachment at the coronary ligament and the popliteus shadow. Figure 5b shows posterior detachment representing an extension at the popliteus sheath. Figure 5c shows posterior detachment but with tearing of some of the substance of the meniscus.

The most frequent side of injury or disease, and why, is always the topic of interesting discussion. The following was found in this series of 200 cases, considering only surgically confirmed disease or injury. Seventy-one menisci were removed, fifty-one (72%) from the medial side, twenty (28%) from the lateral. These figures include discoid and cystic menisci as well as traumatic injuries.

Complications have been negligible. The Renograffin is completely absorbed within the first few hours and the knee remains "puffy" with air for as long as three days. During this time strenuous activities and sports are non advised. Pre-medication is not used. Two patients have asked for "a pain pill" following the procedure but none is routinely prescribed. No infections have occurred, either superficial or deep.

DISCUSSION

The arthrogram is extremely useful to the

orthopedist, providing the following:

1. *A definite pre-operative diagnosis:* Workman compensation and liability cases often provide the most complex diagnostic problems. Patient symptoms frequently persist long after physical findings disappear. A procedure which can "clear the air," is extremely useful. In this day of awareness of physician liability, negative surgical explorations are more difficult to justify.

2. *A visual picture of the injury:* The ability to anticipate the nature of the pathology will influence the type incision used. On two or three occasions when a bucket-handle tear constituted all the meniscus medially, a small transverse incision was made anteriorly and the meniscus removed by simply detaching the anterior and posterior horns. A Bruser incision is preferred by the author for removal of a torn lateral meniscus. Exposure of the remainder of the joint with this approach is poor but a negative arthrogram will rule out pathology elsewhere.

3. *Localization of the side of injury:* Rarely a patient will present with medial joint signs and symptoms only to be found at surgery, two incisions later, to have a lateral lesion. Three patients in this series presented this paradox clinically. At arthrography they had only lateral disease, and only one incision on the correct side was necessary. One older athlete presented with bilateral torn menisci.

4. *Better exploration of the joint through surgery:* At least for the menisci this is certainly true. The posterior one-third of the meniscus is difficult or impossible to evaluate through conventional incisions. With both the supine (dye) and prone (air) studies, fairly conclusive evaluation can be made about the entire periphery. The under surface of the meniscus can also be better seen with the arthrogram. (Fig. 6)

5. *Other associated pathology:*

- a. Ligaments: The diagnosis of serious ligament injuries is usually easily done clinically by



Figure 5.

(a) Normal posterior lateral meniscus; (b) Posterior one-third detachment; (c) Posterior detachment with torn lateral meniscus.



Figure 6.

Torn medial meniscus (stellate tear on under surface).

stressing the torn ligament. The isolated anterior cruciate injury is somewhat more difficult to diagnosis. During the past year a lateral view of the knee has been done routinely to evaluate the anterior cruciate. Fib. 7b shows absence of the normal shadow indicating disruption. A parapatellar incision is helpful in primary repair of this ligament.

b. Baker's Cyst: Lesions of the meniscus co-existing with/or producing the popliteal cyst have been reported in over 50% of cases. Pre-operative arthrography in these cases is therefore mandatory if joint exploration is not anticipated. A semimembranous bursa may frequently be seen communicating with the joint. Air and/or dye may be seen in the bursa. (Fig. 8)

6. *Avoidance of unnecessary surgery*: Regardless of statistics and data analysis of surgically proven cases the real winners with arthrography of the knee are the patients who have with it avoided unnecessary knee surgery. Our study is replete with individual cases of patients with injury, hemarthrosis, flexor spasm (false locked-knee) who might have been considered candidates for surgery. After a negative arthrogram and conservative treatment, we have seen these patients recover completely and return to full activities, including athletics.

CONCLUSION

Double contrast arthrography of the knee is a simple outpatient procedure. After the first 200 cases we are finding this procedure invaluable in the evaluation of perplexing knee problems. It may be, in a sense, considered "non-operative" exploration of the knee.

BIBLIOGRAPHY

1. Johnson, P. H.: Arthrography of the Knee. Arkansas Medical Journal, 71:283-89, 1975.

2. Lindblom, K.: Arthrography of the Knee. Acta Radiol. Suppl., 74:1, 1948.

3. McIntyre, J. L.: Arthrography of the Lateral Meniscus. Radiology, 105:531-36, 1972.

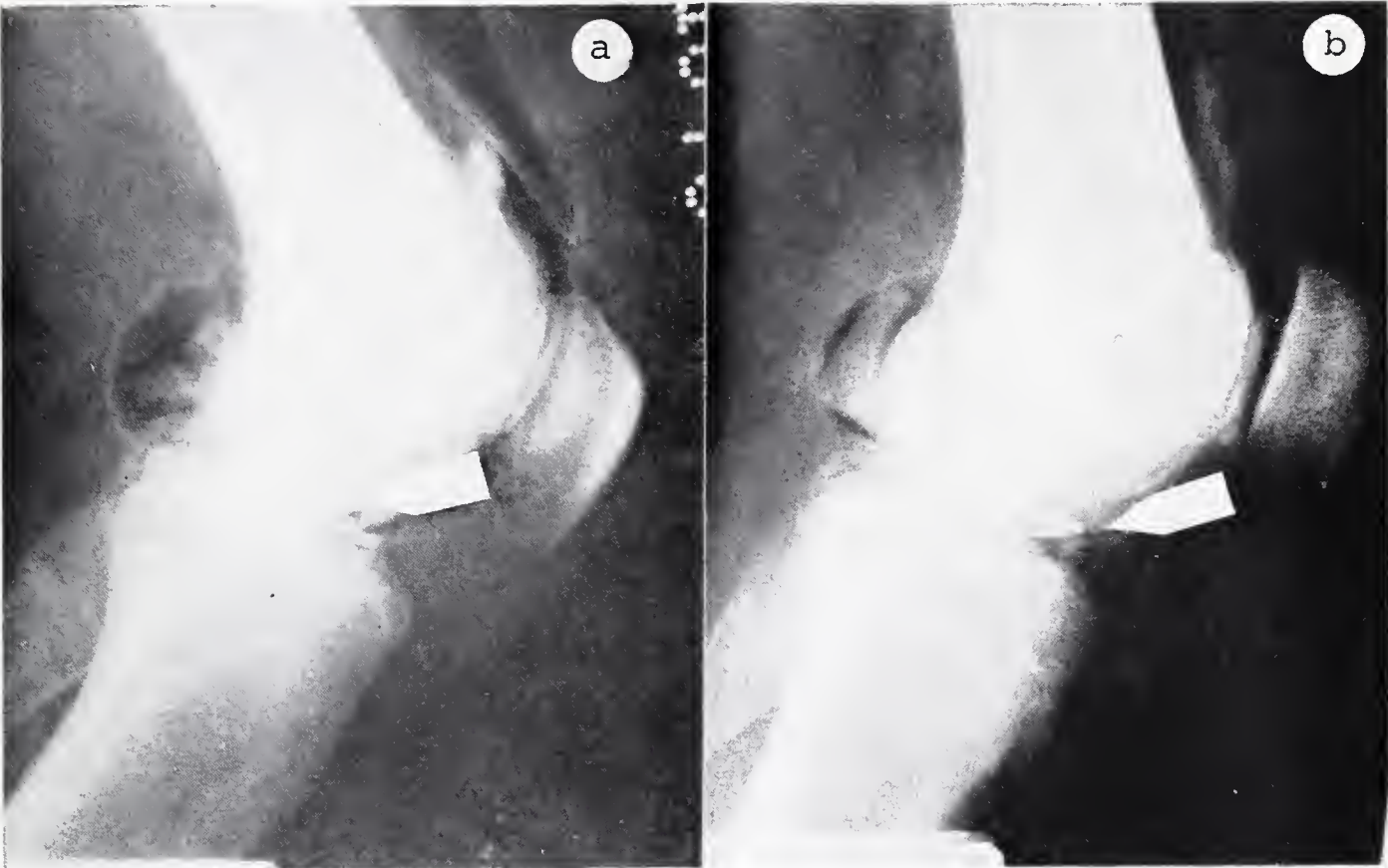


Figure 7.
(a) Normal anterior cruciate; (b) Torn anterior cruciate (disrupted and "balled up").

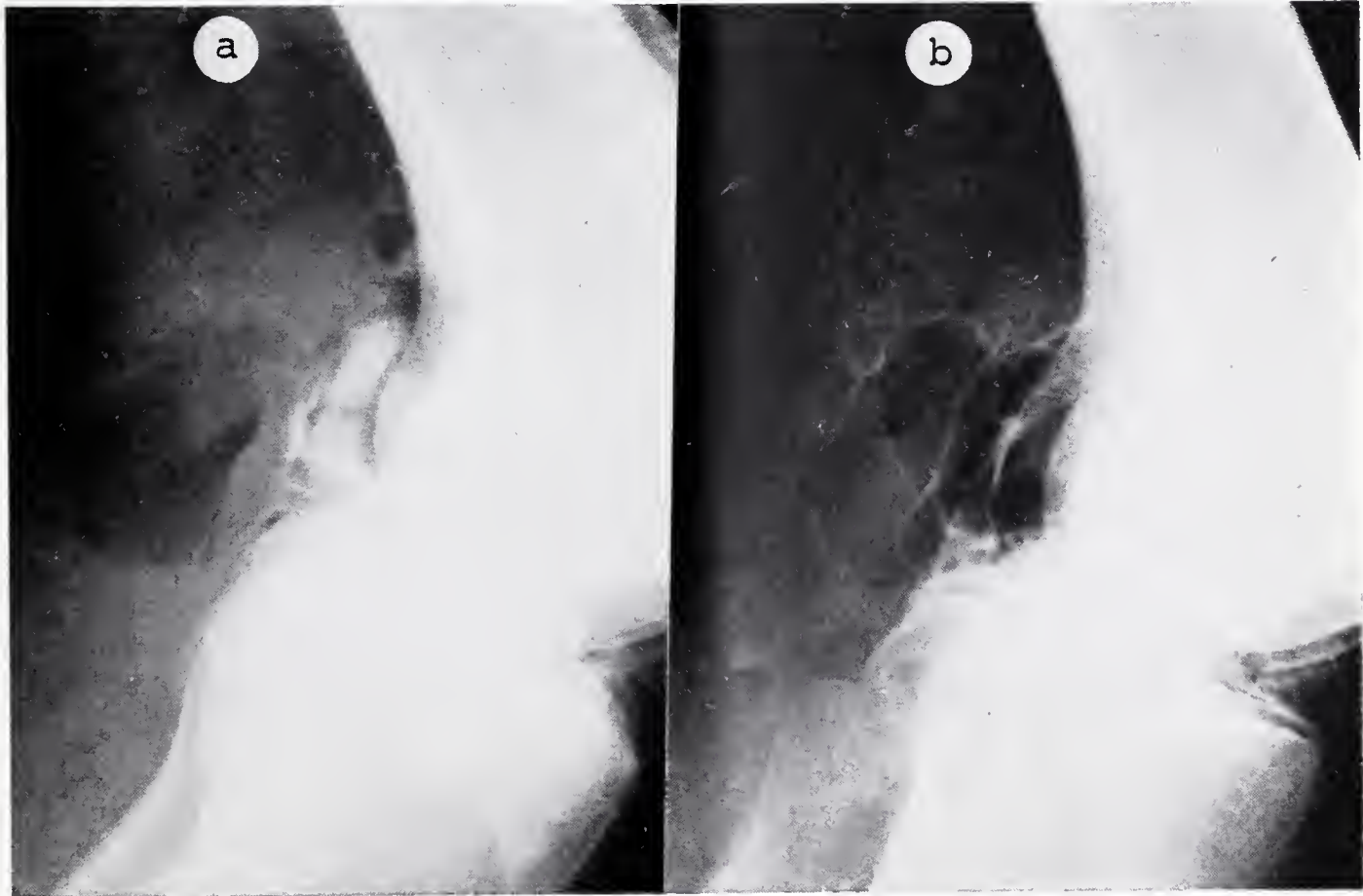


Figure 8.
(a) Air in semi membranous bursa; (b) Dye/air in semi membranous bursa.

ELECTROCARDIOGRAM



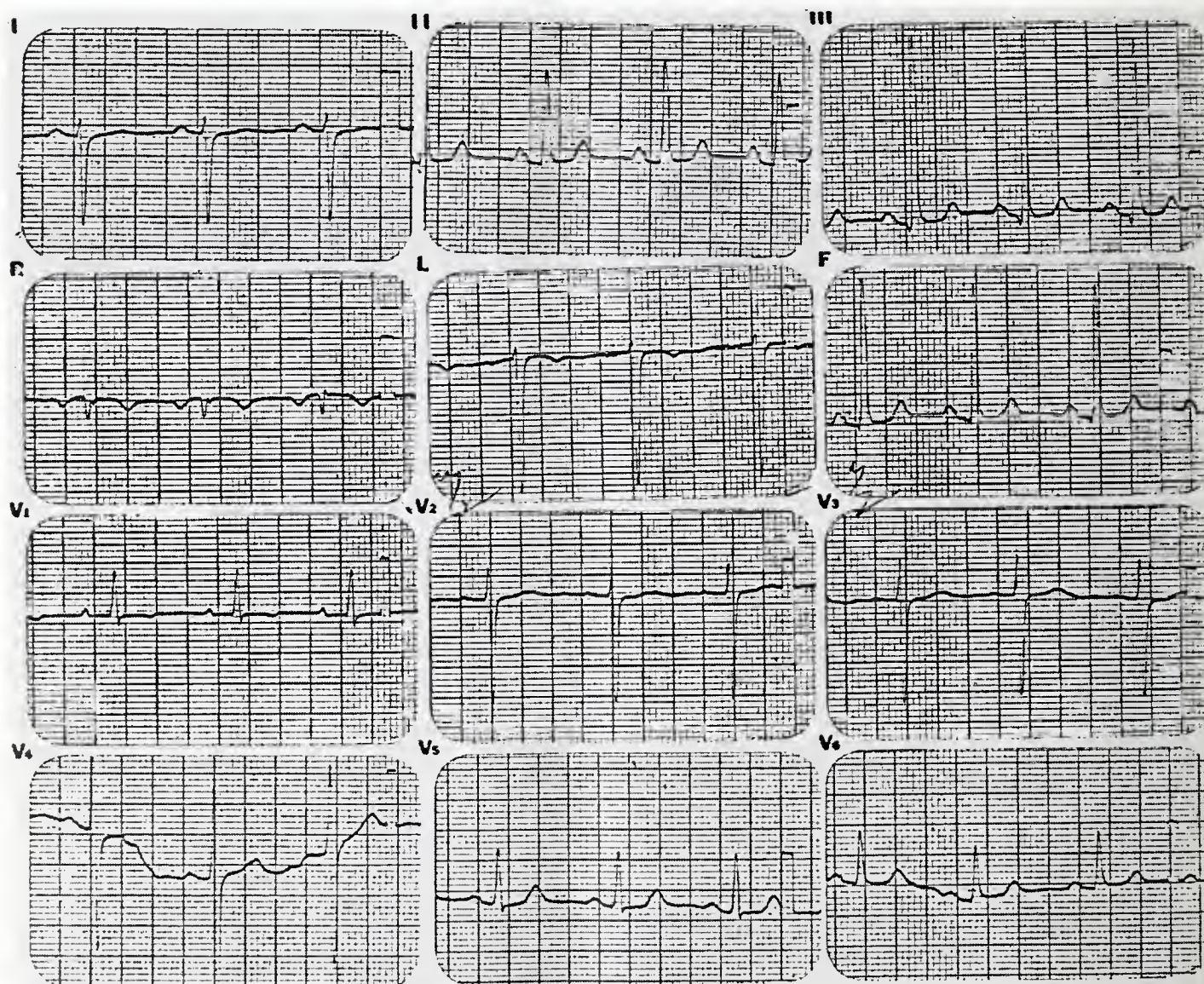
OF THE MONTH



The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 501)

This 26-year-old woman gave a life-long history of a heart murmur, and recently complained of fatigue. She was noted to be cyanotic by physical examination.



Malcolm B. Pearce, M.D.
Associate Professor of Medicine
University of Arkansas for Medical Sciences
Little Rock, Arkansas 72201



PUBLIC HEALTH AT A GLANCE

Viral Encephalitis (Sleeping Sickness)

Harvie R. Ellis, D.V.M.*

In the summer and early fall of 1975, there were many reports of encephalitis in the United States. Arkansas was one of the states that reported both human and animal cases. The most prevalent etiological agents were the St. Louis Encephalitis (SLE), Western Equine Encephalitis (WEE), Eastern Equine Encephalitis (EEE). Past records indicate these three types of encephalitis as having occurred in Arkansas. In general, the arthropod-borne viruses follow a bird-mosquito cycle with an occasional spill-over to mammalian hosts. SLE appears in humans and WEE/EEE appears in both humans and horses. Climatic conditions were optimum for the vector and reservoir (bird) to produce encephalitis in many areas of the United States. The following tabulation provides information by state on the seropositive cases of SLE virus infection up to September 23, 1975.

As determined by surveillance there were certain factors which indicate some bizarre events in the outbreak, especially with SLE. There were several suspect cases of SLE reported in Washington, D. C., metropolitan area. This motivated local authorities to engage in local mosquito abatement programs striving to prevent public concern and preclude transmission of possible SLE infection. Included in these events were epidemics in the Illinois, Ohio, and New Jersey areas where SLE had not been previously reported.

The Foreign Animal Disease Report mentioned the Red River Valley States of Minnesota, North Dakota, and South Dakota as experiencing flooding conditions that resulted in an outbreak

TABLE 1: REPORTED HUMAN CASES SLE

State	Confirmed	Some Serologic	
		Evidence	Total
Alabama	13	20	33
Arkansas	3	10	13
Colorado	1	0	1
Georgia	2	0	2
Illinois	128	202	330
Indiana	43	12	55
Iowa	5	10	15
Kentucky	19	11	30
Louisiana	2	5	7
Maryland	4	0	4
Mississippi	80	74	154
Missouri	4	6	10
Nebraska	1	0	1
New Jersey	14	0	14
North Dakota	10	0	10
Ohio	24	24	48
Pennsylvania	3	1	4
Tennessee	18	22	40
Texas	14	28	42
West Virginia	0	2	2
	388	427	815

of WEE in July and August 1975. There were 14 serological confirmed or suspect cases with six deaths in humans and much greater numbers of equine cases. Control measures of two aerial applications of ultra-low-volume malathion in populated areas in 12 North Dakota and eight Minnesota counties. These measures, in conjunction with favorable weather, brought the Red River Valley epidemic under control.

During the year numerous reports were made of equine cases of EEE and WEE throughout the United States, after the onset of the mosquito

*Division of Veterinary Public Health, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72205.

season. Nebraska, Colorado, and Minnesota reported many cases of WEE but no cases of EEE. Arkansas reported 48 cases of equine encephalitis on 44 premises with one blood positive for WEE. By the end of July 1975, over 1.9 million doses of equine encephalitis vaccine had been produced for use in the United States.

A clinical differentiation of EEE and WEE of equines is impossible. Sophisticated laboratory procedures are essential for a differential diagnosis. The tests for encephalitis include hemagglutination inhibition, serum neutralization, and complement fixation tests on serum samples; tissue culture and laboratory animal inoculation and strain identification of the "equine" varieties of the virus. There is no laboratory in Arkansas where equine blood and tissue specimens can be checked for equine encephalitis. All specimens must be sent to an out-of-state laboratory which results in considerable delay. This situation accounts for the lack of confirmation and typing of many clinical cases. There is an urgent need for a local capability for an early differential diagnosis and positive identification of WEE and

EEE.

The most effective means of preventing any of the viral encephalitis in horses or other equines is to vaccinate them before the mosquito season, every year. The commercial vaccines for these virus diseases in horses are safe and very effective when properly administered by a veterinarian. Horse owners in Arkansas should have their animals vaccinated against viral encephalitis without fail, annually, in the early spring. In man, prevention and effective mosquito control are the requirements for preventing human cases of equine encephalitis.

There is no specific treatment for any of these virus infections in animals or man. Symptomatic treatment along with excellent nursing care must be used for both human and equine cases.

REFERENCES

- Foreign Animal Disease Report, September-October 1975.
- CDC Veterinary Public Health Notes, September 1975.
- Morbidity and Mortality CDC, Vol. 24, No. 35, August 30, 1975.
- Arkansas Animal Morbidity Report, Vol. 20, No. 12, 1975.



EDITORIAL

Cell Membranes

Alfred Kahn, Jr., M.D.

Advances in our knowledge of cell membranes is progressing at a dizzy pace. The scanning microscope has revealed fascinating information about the cell surfaces. Lin, Cooper, and Wortis (New England Journal of Medicine, Volume 289, Page 548, September 13, 1975) used the scanning microscope to study human lymphocytes of thymus origin (T-cells) and human lymphocytes of non-thymus origin (B-cells). They describe the T-cell as being quite round and their

surface contained only a few microvilli — up to 3 per square micron. On the other hand, B-cells which were also quite round contained many microvilli — 10 or more per square micron. The surface of both T and B cells have undulations. The authors' illustrations point out that although the smooth areas of lymphocytes may touch or attach to other cells, the microvilli seem to be the principal point of contact.

Pollack, McKenzie, Gee, Lampen de Harven

and Clarkson have used the scanning microscope to study 34 cases of acute leukemia — granulocytic, myelomonocytic, monoblastic, and histiocytic leukemia (*American Journal of Medicine*, Volume 59, Page 309, September, 1975). There appears to be enough difference in the surface appearance to distinguish some of the different types of leukemia. The illustrations in this article are spectacular. One picture shows a large smooth spherical cell with few surface projections; it is an undifferentiated blast cell from acute leukemia. Normal mature granulocytes show some ridges and a ruffled surface. Normal mature granulocytes show many large ruffles. Cells from leukemic patients tend to show a distinctive enough appearance so that lymphocytic leukemias can be diagnosed — and they appear to have a different appearance from non-lymphocytic series. The histoblastic and monoblastic cells were similar and had prominent ruffles and ridges. The myelocytic series tended to have smaller ruffles and ridges — and some had microvilli. Myelomonocytic leukemias had both ridges and ruffles.

The surface of cells binds chemicals that are brought to it by the body fluids. Obviously, the chemical has to get into contact with the cell or the cell will receive no stimulus to react. A very simple chemical might get into a cell with ease. The more complex, larger chemicals, as the polypeptide hormones have target cells and these cells have to have surface receptors to bind the polypeptide to the cell so that the biochemical reactions can eventually occur. It is now possible to study the specific receptor on target cells — and the receptors' ability to bind hormone. This can be used as an assay test. Gavin, Kahn, Gorden, Roth and Neville reported in the *Journal of Clinical Endocrinology and Metabolism* (Volume 41, Page 438, September, 1975) on "Radioreceptor Assay of Insulin: Comparison of Plasma and Pancreatic Insulins and Pro-Insulins." This interesting research project used purified rat liver membrane and human lymphocytes — and studied the interaction between these receptors and high specific activity labeled hormones. The authors were able to show that porcine proinsulin, for example, was only 5% as active as porcine insulin using lymphocytes and rat liver membrane. Using human lymphocytes, the human immunoreactive insulin-like substance reacted to show about the same

strength as porcine insulin per immunoreactive unit; pro-insulin like substances were only 15% as reactive. Gavin et al state that the radioreceptor assay is easier to perform than standard bio-assay tests for insulin.

In another study, Megyesi, Kahn, Roth and Gorden reported on Circulating NSILA-S in man. (*Journal Clinical Endocrinology and Metabolism*, Volume 41, Page 475, September, 1975). There is a peptide called NSILA-S meaning non-suppressible insulin-like activity soluble in acid ethanol. The interesting thing is that this substance lacks insulin immunoreactivity yet it has insulin-like biologic activity: it is not insulin. Megyesi has found rat liver has two sets of receptors: one for insulin and one for NSILA. They developed a technique for measuring NSILA by radio-receptor assay. Using this assay technique, the authors found that NSILA was elevated in tumors that produced hypoglycemia and pregnancy; it is low anorexia nervosa and hypopituitarism.

An interesting use of the insulin receptor test is reported in a further study entitled "Insulin Receptor Deficiency In Genetic and Acquired Obesity" by Soll, Nevill and Roth in the *American Journal of Medicine* (Volume 56, Page 769, October, 1975). Obese mice were used as they react in a similar metabolic manner to humans. The authors found that obese mice have a deficiency of insulin receptors on liver cells, fat cells, and lymphocytes. This occurs in both acquired and genetic obesity; this, of course, is associated with hyperinsulinemia. Of great importance is the fact that when the animal was fasted, the number of receptors increased and the circulating insulin decreased. When Exogenous Insulin was given to fasting animals, the insulin receptors did not increase. Soll et al conclude that in obesity there is invariably decreased binding.

The study of the surface of cells offers many new insights into identification and function of the cells — especially interesting in the use of the scanning microscope and the radioreceptor assay.

ANSWER—Electrocardiogram of the Month

ECG shows marked right axis deviation and primary R wave in lead V, indicating right ventricular hypertrophy. Cardiac catheterization revealed a ventricular septal defect with irreversible pulmonary hypertension.

MEDICINE IN THE



THE MONTH IN WASHINGTON

Opposition to the Administration's proposals to change Medicare appears to be almost universal on Capitol Hill. The American Medical Association, the American Hospital Association, the AFL-CIO, the National Council of Senior Citizens are among many frequently crossed organizations that have joined in assailing the President's proposal.

The Administration has asked Congress to approve a new catastrophic benefit for Medicare coupled with much higher cost-sharing, to impose percentage "caps" on Medicare reimbursement for hospitals and physicians, and to change Medicaid into a block grant program for the states.

The House Ways and Means Health Subcommittee, headed by Rep. Dan Rostenkowski (D-Ill.), chaired three days of hearings as the Ford proposal was intended to take effect in March and Congressional approval was necessary. Any illusions the Administration may have entertained that some important support might surface for the Medicare plan were swiftly dispelled by the parade of hostile witnesses.

Rostenkowski chided the Administration for seeking early enactment without being able to provide Congress with a legislative proposal by the time hearings started. From the tone of Rostenkowski and other Subcommittee members in their questioning, there seems little chance of the proposal getting anywhere.

Raymond T. Holden, M.D., Chairman of the AMA's Board of Trustees, said "The proposed changes would not only be impractical, but would also be inherently unfair to all parties concerned. Unfortunately, the unfairness would be especially hard upon the beneficiaries of the Medicare program."

Discussing the proposed four percent limitation in 1977 on increases in Medicare physician reimbursement, Dr. Holden said "We must point out unequivocally that the percentages proposed are wholly unrealistic. The proposal ignores the

realities occurring in our economy throughout the country. Moreover, inflationary conditions existing generally in our economy cannot justifiably be the basis for imposition of arbitrary and discriminatory ceilings on a single segment of the economy.

"To impose such arbitrary limits on only one segment of the economy and then to expect a continuation of beneficiary satisfaction for having benefits paid by Medicare (as promised by the program) is naive. The health care sector of our society cannot operate in a vacuum. It is subject to the same costs of living and costs of doing business as is any other segment of society. It cannot be expected to provide high quality care while having reimbursement limited to unrealistic levels."

The AMA Chairman told the Subcommittee the proposed limitations on increases in charges are in reality a response to a problem created in large measure by government itself. "Providers and physicians cannot be subject to ever increasing regulations and requirements . . . and yet be expected to keep charges at less than cost levels. These special requirements are on top of the inflationary problems faced by them along with everyone else."

Dr. Holden noted that both physicians and hospitals also "are experiencing highly unusual expenses relative to professional liability insurance."

"If the limitations were imposed, some health facilities could face bankruptcy," Dr. Holden said. "The patient will pay more, and the federal government will again have promised a broad program while seeking to limit payment for the care received. Under the guise of holding down costs to the federal government, the costs would, in fact, be increased to patients. The federal government must realize that once a program is legislated the service does not become free. But that, as with services generally, payment must be provided. In this instance we believe that it is unconscionable on the part of the

Administration to shift costs to the beneficiary under the pretense of trying to limit the costs of the program to the federal government."

The proposals creating the four and seven percent (on hospitals) limitations "are clearly discriminatory and arbitrary," he said. "They should be rejected summarily. Physicians have already been subjected to unreasonable and arbitrary controls. First the 83rd percentile formula, then the various phases under price controls, and now the 75th percentile which itself is controlled by an arbitrary economic index.

"These inequities are further magnified by the unrealistic Medicare practice which bases current payments upon data almost two years old. While physicians have accepted their responsibility in meeting the needs of the elderly, it is time for the government to meet its responsibility of fulfilling the commitment it made to the elderly under Medicare."

Bert Seidman, Director of the AFL-CIO's Social Security Department, said Labor was "dismayed" by the Administration's recommendations, which he declared would "create a most serious barrier to health care for the elderly." Seidman argued that the proposed reimbursement controls on hospitals and physicians would simply shift the financial load to non-Medicare patients in hospitals and result in fewer physicians accepting assignment.

* * * *

The sounds of a catastrophic-only national health insurance plan for this year still reverberate through Senate halls.

Senate Majority Leader Mike Mansfield (Mont.) and Republican Leader Hugh Scott (Pa.) recently agreed during a joint television appearance on backing catastrophic and on predicting it has a good chance of clearing Congress this year.

Chief Congressional sponsor of a catastrophic-oriented plan — Sen. Russell Long (D.-La.) — said in a separate appearance that he believes Congress will approve his bill this session. Congress will go beyond what President Ford recommended in the way of catastrophic benefits for Medicare beneficiaries, Long said, and extend the concept to all Americans. The Chairman of the Senate Finance Committee said that for the average working man with a long siege of illness

and very high medical expenses "we are going to provide some help for him, too."

* * * *

The Administration has told Congress it won't propose a national health insurance (NHI) program until the economy brightens. However, Health, Education and Welfare Secretary David Mathews has conceded the plan — when submitted — will be close to the Nixon Administration's so-called CHIP plan mandating comprehensive private health insurance coverage to be offered by employers.

Mathews appeared before the House Commerce Subcommittee on Health as it opened the 1976 hearings on NHI. Under questioning from Subcommittee Chairman Paul Rogers (D.-Fla.) Mathews said CHIP remains the basic Administration NHI plan and that proposing it "is a matter of timing."

* * * *

A Senate report charges that some clinical laboratories involved in Medicaid have operated on a kickback basis with physicians and clinics.

Chairman Frank Moss (D.-Utah) of the Senate Special Committee on Aging said the report "concludes that, at least in the states which came under investigation, kickbacks are widespread among labs specializing in Medicaid business. In fact, it appears necessary to give a kickback to secure the business of physicians or clinics who specialize in the treatment of welfare patients."

The report focussed on Illinois. Other states mentioned were New York, New Jersey, Michigan, California and Pennsylvania.

A staff witness told the Committee at a hearing that the staff estimates that at least \$45 million of the \$213 million Medicare-Medicaid payments to clinical laboratories is either fraudulent or unnecessary. Average kickback was 30 percent of the lab's charge, the report estimated.

The report says a small number of labs control the Medicaid business in the involved states. In New York, according to the report, 17 facilities control 70 percent of the Medicaid business; in New Jersey, 12 labs control nearly 60 percent of Medicaid payments; in Illinois, 26 labs handle over 90 percent of the volume.

In response to numerous press queries generated by the Committee's report including a filmed version of the charges carried nationally by CBS's program "Sixty Minutes," Max H.

Parrott, M.D., AMA President, made the following statement:

"I would remind physicians and the public alike that the AMA Code of Ethics is very clear on the matter of laboratory charges.

The physician's ethical responsibility is to provide his patients with high quality services. As a professional man, the physician is entitled to fair compensation for his services. But he is not engaged in a commercial enterprise and he should not make a markup, commission or profit on the services rendered by others.

If after due process a physician is found to have violated the Code of Ethics in this or any other respect, he is fully liable for whatever professional penalties may be imposed, in addition to whatever penalties may be imposed by law."

* * * *

Staff of the House Commerce Health Subcommittee has prepared a discursive dictionary designed to steer lawmakers through the maze of terms — medical, legal, and federal — involved in an intelligent discussion of national health insurance.

The 183-page document also will help physicians who have dealings with the federal government and Congress. It contains concise definitions of most of the pertinent legal and governmental terms and acronyms ("alphabet soup expanded") flavored with a touch of whimsy.

Illustrations range from a drawing of the lower intestines (see *borborygmus*) to a handsome full-page sketch of *andreas vesalius* and a two-page biography ("a wonderful man").

In an introduction, Subcommittee Chairman Paul Rogers (D-Fla.) said the developing debate on NHI ("a term not yet defined in the United States") employs a "bewildering array of new and unfamiliar terms." He described the discursive dictionary as "the first reasonably complete dictionary of terms relevant to the consideration of NHI and health care available."

Skipping through the document one finds definitions of such terms as triage, trolley car policy (benefit for injuries only when hit by a trolley car), slip law, respondeat superior (employers liability for malpractice of an employee), ping-ponging (passing patients from one physician to another), halo effect, gork, chainside and backdoor authority.

A typical definition — legislative history:

The written record of the writing of an act of Congress. It may be used in writing rules or by courts in interpreting the law to ascertain or detail the intent of the Congress if the act is ambiguous or lacking in detail. The legislative history is listed in the slip law (final version) and consists of the House, Senate and conference reports (if any), and the House and Senate floor debates on the law. The history, particularly the committee reports, often contains the only available complete explanation of the meaning and intent of the law.

Put together by Lee Hyde, M.D., professional staff member of the Commerce Health Subcommittee, the dictionary is available in limited quantities on written request to: (Please enclose a self-addressed envelope)

Interstate and Foreign Commerce Committee
2125 Rayburn House Office Building
Washington, D. C. 20515

* * * *

The Health, Education and Welfare Department has been accused of attempting a shocking invasion of privacy in proposing to collect social security number identification of hospitalized patients and their physicians.

The AMA told HEW that "In this age of great concern over the right of privacy on the part of all citizens in our country, we are shocked that a federal department would now formally propose to establish a mechanism by which most physicians and every hospitalized Medicare, Medicaid, and Title V recipient could be classified, identified, matched, compared, reviewed and computerized with the impersonal ease of electronic machines."

The social security information would be part of the data collected by the Department for Uniform Hospital Discharge Abstract (UHDA) for federal medical programs. Purpose is to gather and coordinate statistical information which also could be used by planning bodies, accrediting organizations, hospitals, and private third-party payors.

The form would require the names of patient and attending physician and operating physician as well as their social security numbers.

The AMA noted in a formal comment that such use of social security numbers as universal

identifiers has been criticized both by Congress and HEW in the past as a significant threat to peoples' right of privacy.

"There is well founded reason to fear that universal identifiers might be potentially available for abuse," the AMA said. "If, for example, each individual is identified in all of his activities by a single number and his activities are tabulated in a number of different record systems, all com-

puterized, the universal identifier tends to erode the barriers between information systems. The fact that the social security number is already in such use makes any further encouragement for its use as contemplated by the proposed UHDA, highly dangerous."

The new telephone number for the University of Arkansas College of Medicine is:
661-5000



THINGS TO COME



Aldersgate Medical Camps

Children with medical or orthopedic problems who may not be able to attend a regular summer camp are eligible for Aldersgate Medical Camps. The dates for 1976 are: General Medical Camp, June 14-19; Diabetic Camp, June 21-26; Orthopedic Camp, June 28-July 3.

Many types of medical problems can be accepted. All patients referred by physicians are accepted so long as space is available on a first-come, first-served basis. A medical committee will review the applications which may be obtained by writing Aldersgate Medical Camps, 2000 Aldersgate Road, Little Rock, Arkansas 72205 (telephone 225-1404). Some scholarships are available, depending on the amount of donations. Tax deductible contributions for the scholarships may be made directly to the camp at the above address.

Aldersgate Medical Camps are sponsored by Arkansas Pediatricians and have been endorsed by the Arkansas Medical Society.

Refresher Course To Be Presented

The Department of Radiology and the A. Webb Roberts Center for Continuing Medical Education of the University of Texas Health Science Center are sponsoring a two and one-half day course entitled "Refresher Course in Gastrointestinal Radiology" to be presented Oc-

tober 29-31, 1976, at the Fairmont Hotel in Dallas, Texas.

The course meets the criteria for eighteen hours of credit in Category I for the Physician's Recognition Award of the American Medical Association. For further information regarding the course contact: Robert N. Berk, M.D., Department of Radiology, Parkland Memorial Hospital, 5201 Harry Hines Boulevard, Dallas, Texas 75235.



OBITUARY

Dr. Holden C. McCraney

Dr. Holden C. McCraney of Fort Smith died March 31, 1976, at the age of fifty-seven. He was born on January 16, 1919.

Dr. McCraney was a graduate of Louisiana State University and of the University of Chicago Medical School.

Dr. McCraney was a member of the Sebastian County Medical Society, the Arkansas Medical Society, the AMA, American Academy of Dermatology, Southern Medical Association, Arkansas Dermatological Society, and the Oklahoma Dermatological Society.

Survivors include his widow, Mrs. Marie McCraney, three daughters and a son.



PERSONAL AND NEWS ITEMS

Physician Named Director

Dr. James A. Lindsey of Malvern was recently named director of the family practice residency program at the Area Health Education Center in Pine Bluff. The program is designed to attract young physicians into practice in less densely populated areas of the state and to train them in community hospitals outside the Little Rock area. Dr. Lindsey was also appointed assistant professor in the Family and Community Medicine Department of the University of Arkansas for Medical Sciences.

Doctors Named To Hospital Board

Drs. Bernard Capes, C. P. McCarty and Hershel Oldham are now members of the Board of Directors of the Helena Hospital Association. Dr. Capes, Past Chief of Staff, will serve for one year; Dr. McCarty, Chief of Staff, will serve two years, and Dr. Oldham, Chief of Staff-elect, will serve for three years.

Physicians Pass Board Examinations

Dr. Michael Reese of Rogers and Dr. E. N. McCollum of Decatur recently passed the board examinations of their respective medical specialty societies. Dr. Reese is an otolaryngologist and Dr. McCollum is a family physician.

Dr. Crow On Tech Board

Dr. Neil Crow of Fort Smith was recently named vice chairman of the Board of Trustees of Arkansas Polytechnic College at Russellville.

Dr. Landrum Receives Award

Dr. Samuel Landrum, a general surgeon in Fort Smith, was named recipient of the 1975 Trauma Achievement Award at the annual meeting of the American College of Surgeons Committee on Trauma held at Tampa, Florida.

Physician Gives Speech

Dr. William D. White of Searcy recently spoke to the Searcy Optimist Club on the relationships between stress and strain upon the body, and the way that psychosomatic illnesses afflict many people. Dr. White practices internal medicine in Searcy and is also a visiting professor at Harding College, teaching a course in behavioral disorders.

Committee Organized

Dr. Jim Lytle of Batesville was recently elected chairman of a newly formed committee in Batesville to secure additional physicians for the area. The organization is called the Batesville Area Search Committee. Dr. Lackey Gene Moody, also of Batesville, was named vice chairman. Dr. Troy Raney of Cave City represents his town on the newly formed committee.

Address Correction

Dr. Jan T. Turley, a urologist in Rogers, was incorrectly reported to be located at 601 West Walnut in Rogers in the March 1976 issue of the Journal. His correct address is 1217 West Walnut, Rogers.

Physician Presents Paper

Dr. W. E. Knight of Fort Smith was on the guest faculty at the Fourteenth Annual Orthopaedic and Rehabilitation Seminar at Des Moines, Iowa, April 9th and 10th. Dr. Knight presented a paper entitled "The Use of Antibiotic Impregnated Bone Cement in Total Joint Replacement," which was written by Dr. Knight and Dr. James W. Long, also of Fort Smith.



Sebastian County Auxiliary

The Sebastian County Auxiliary celebrated Doctor's Day March 27, by sponsoring a riverboat romp. The women of the auxiliary treated the doctors to a night of dancing, gambling, auctioning, and a real southern meal on board a riverboat.

Also in connection with their Bicentennial Doctor's Day project, the Sebastian County Auxiliary put together displays of Sebastian County physicians, which were exhibited at the Fort Smith Art Center from March 28 through April 11.



PROCEEDINGS OF SOCIETIES

COUNCIL MINUTES OF THE ARKANSAS MEDICAL SOCIETY

The Council of the Arkansas Medical Society met at 12:00 noon on Sunday, March 14, 1976, in the Sheraton Hotel, Little Rock. Present were: Long, Townsend, Koenig, Shuffield, Kirkley, P. Gray, J. Bell, P. Bell, Inman, Irwin, Jameson, Moore, Harris, Andrews, Kolb, Orr, Henry, Kirby, Watson, Purcell Smith, Edgar Easley, George Mitchell, Thomas Bruce, Thomas Bell, Mahlon Maris, Congressman John Paul Hammerschmidt, Mr. Harris, Mr. Warren, Mr. Schaefer, Miss Richmond, and Mr. McIntosh.

The Council transacted business as follows:

1. Chairman Long advised the Council that the proposed constitutional amendment on malpractice has been designated Amendment #58 and that members should begin using that identification in communications with patients.
2. The Council approved actions of the Executive Committee on February 5, 1976, as follows:
 - (A) Decided against participation in a hearing before the Commissioner of the Arkansas Department of Social and Rehabilitative Services on the proposed implementation of the Maximum Allowable Cost regulations for drugs under the Medicaid Program.
 - (B) Decided against participation with the Pharmaceutical Association in a court test of the Maximum Allowable Cost regulations.
3. Upon the motion of Orr, the Council voted not to pay Medical Society representatives for attendance at meetings of the Health System Agencies.
4. The Council approved, by motion of Andrews, participation in a Southwestern States Reception at the AMA meeting in Dallas in June 1976.
5. Upon the motion of Shuffield, the Council

voted to authorize presentation of a certificate of appreciation to Dr. Alfred Kahn for his many years of service as editor of the Journal of the Society.

6. The Council approved the annual report of audit of the Society records, upon motion of Kirkley.
7. The Council approved recommendations on up-dating Council committees as presented by Chairman Long:
 - (A) Elimination of the Student AMA Liaison Committee, Senior Medical Day Committee, and the Arkansas State Advisory Committee to the Selective Service System.
 - (B) Change membership on four committees to the following:

Physician-Nurse Joint Practice Committee:
Robert Watson, Little Rock,
Chairman
Charles E. Tommey, El Dorado
Jerry Holton, Little Rock
Guy R. Farris, Little Rock

Committee on Constitutional Revision:
A. S. Koenig, Jr., Fort Smith,
Chairman
William S. Orr, Little Rock
Nathan Poff, Heber Springs
Warren Murry, FayettevilleMedical School Committee:
Asa Crow, Paragould, Chairman
Kemal Kutait, Fort Smith
Boyce West, Clarksville
James L. Gardner, Hot Springs
Max G. Cheney, Mountain HomeCommittee on Pharmacy:
Kelsy Caplinger, Little Rock,
Chairman
John W. Trieschmann, Hot Springs
 - (C) Review by district councilors and recommendation to the Council at the Annual Session regarding any changes in Professional Relations Committees.
8. Dean Bruce discussed briefly the Family Practice Program at the Medical School reporting that a great many more medical students were going into general practice. Arkansas is among the leaders in number of students entering Family Practice programs.
9. Congressman John Paul Hammerschmidt discussed the legislative proposal sponsored by him, Congressman Thornton and Con-

gressman Alexander. The proposed bill was drafted as an alternative to the payment of Medicare fees on the basis of usual, customary and reasonable charges for five areas of the State. Congressman Hammerschmidt asked for comments from the Council. Several questions on intent of the legislation were presented by members of the Council. Congressman Hammerschmidt told the Council he would consult with House committees' staff people and others with expertise in the matter on modification of the proposal.

10. Mr. Schaefer recommended that Leah Richmond's title be changed to Associate Executive Vice President and that the title for John McIntosh be changed to Assistant Executive Vice President. Upon the motion of Kirkley, the Council so voted.
11. The Council considered a proposed revision of the Arkansas Medical Society Employees' Pension Trust Plan to bring the plan into conformance with the requirements of the Employee Retirement Income Security Act of 1974 (ERISA). The plan calls for employee eligibility on first semi-annual anniversary date after completion of twelve months service. The Council approved the proposed plan with the provision that, if possible under ERISA, the waiting period for eligibility be left to the discretion of the plan trustees. Motion for approval was by Orr.
12. Chairman Long reported to the Council that the Executive Committee had met at 9:00 a.m. on the morning of the 14th to consider the Society's plan for an educational campaign on getting the people of the State to support Proposed Constitutional Amendment #58, the "malpractice amendment." Mr. Schaefer briefly outlined for the Council the proposed plan, which is based on a one-to-one personal contact approach. The campaign is to be conducted by the headquarters staff and members of the Medical Society. Upon motion of Gray, the Council approved the proposed plan.

The Council went into Executive Session with President Townsend presiding:

Mr. Schaefer advised the Council that he would reach retirement age in July and pro-

posed that he retire from his position as executive vice president effective August 1, 1976. He suggested to the Council that C. C. Long, M.D., be employed to fill the vacancy created by his retirement.

Orr expressed the deep appreciation of the Council for the service which Mr. Schaefer had performed and moved that the Council accept Mr. Schaefer's proposal as presented with the understanding that the Council will use his expertise for as many years as he will permit.

Koenig spoke seconding the motion of Orr, mentioning that in his work with the PSRO Dr. Long has demonstrated a great deal of administrative ability and that his employment in the position of executive vice president has tremendous merit in that he is completely familiar with the operation of the Society.

The Council voted approval of the motion and accorded Mr. Schaefer a standing ovation.

APPROVED: C. C. Long, M.D.

Chairman of the Council



NEW MEMBERS

Dr. Ronald R. Reese

The Boone County Medical Society has added the name of Dr. Ronald Reese to its membership roll. He is a native of Nashville, Arkansas.

Dr. Reese attended the University of Arkansas at Fayetteville and then entered the University of Arkansas School of Medicine, from which he received a M.D. degree in 1974. He interned at the University of Arkansas Medical Center. Dr. Reese is now a family practitioner at the Boone County Medical Center in Harrison.

Dr. Joe M. Tullis

Dr. Joe Mitchell Tullis has recently been accepted for membership in the Baxter County Medical Society.

Dr. Tullis is a native of Robstown, Texas. He received a B.A. degree in 1963 from the University of Corpus Christi and a M.D. degree in 1969 from the University of Texas Medical Branch at Galveston. Dr. Tullis served in the United States Navy from 1970 to 1975. His residency in Radiology was served at the Naval Hospital in San Diego, California. He is board certified by the American College of Radiology and he is practicing Radiology at the Baxter County Hospital in Mountain Home.

Dr. Theodore J. Matuga

The Baxter County Medical Society has announced that Dr. Theodore J. Matuga is a new member of that Society.

Dr. Matuga is a native of Chicago, Illinois. He attended Loyola University and then entered Loyola University Stritch School of Medicine in Chicago and was graduated in 1968. His internship was a rotating internship at Cook County Hospital and his residency in Radiology was also at Cook County Hospital. Dr. Matuga was in the United States Army from 1972 to 1973. He is now practicing Radiology at the Bull Shoals Community Hospital in Bull Shoals.

Dr. Thomas H. Hollis

The Garland County Medical Society has added the name of Dr. Thomas H. Hollis to its membership roll. He is a native of Hope, Arkansas.

Dr. Hollis was graduated from the University of Arkansas School of Medicine in 1974. He took his internship and residency training at the University of Arkansas Family Practice Center.

Dr. Hollis is a family practitioner with Drs. J. Richard Gardial, James L. Gardner, Sanford E. Hutson, III, and George P. Queen at 125 Greenwood in Hot Springs.

Dr. Charles H. Brown

Dr. Charles Hugh Brown has been accepted for membership in the Ouachita County Medical Society. He is a native of Heber Springs, Arkansas.

Dr. Brown received his B.S. degree in 1966 from the University of Arkansas and was graduated from the University of Arkansas School of

Medicine in 1968. He interned at the Hillcrest Medical Center in Tulsa, Oklahoma, and his residency was served at the University of Oklahoma Health Sciences Center. Dr. Brown was in the United States Navy from 1969 to 1971.

Dr. Brown is practicing urology at 415 Hospital Drive in Camden.

* * *

The following are new medical student members of the Pulaski County Medical Society:

Richard Earl Daily
Edward Anderson Gresham
Danny E. Grubbs



RESOLUTIONS



Dr. John Stathakis

WHEREAS, the recent death of John Stathakis, M.D., is noted with sincere sorrow by the members of the Pulaski County Medical Society; and

WHEREAS, Dr. Stathakis had been a highly respected member of this Society for forty years, and was held in high esteem by this Society and by the Community; and

WHEREAS, his dedication to the practice of his profession was of notable consideration;

BE IT THEREFORE RESOLVED: THAT, this resolution be made a part of the permanent records of this Society; and

THAT, a copy of this resolution be sent to Dr. Stathakis' family as an expression of our sincere sympathy; and

THAT, a copy of this resolution be sent to the Journal of the Arkansas Medical Society for publication.

By direction of the Memorial Committee,

T. Duel Brown, M.D., Chairman
Henry Hollenberg
Robert Watson, M.D.

INDEX

JOURNAL OF THE ARKANSAS MEDICAL SOCIETY

Volume 72

June, 1975 - May, 1976

(O) Original Article; (SP) Special Article; (OB) Obituary;
(R) Resolution; (E) Editorial; (BR) Book Review.

— A —

- Abdominal Aortic Aneurysms, Ruptured (O) 458
Ackerman, Harry L. (O) 481
Adair, Bernice (SP) 73
Adult Outpatient Psychiatry Clinic, Treatment Continuers
and Discontinuers (O) 92
Agar, Drew F. (R) 103
Aging Process, Cataracts as a Model of the (E) 179
Ahrling, Sherry (SP) 370
Alford, T. Dale (O) 62
Allen, Barry (O) 267
Allen, George (R) 415
American Blood Commission Established (SP) 80
American Medical Association Meeting, Report of the
(SP) 183
Ampicillin Resistant Hemophilus Influenzae Meningitis in
Arkansas (O) 267
An Early Description of a Congenital Anomaly: A Foetal
Monstrosity (O) 457
Anesthesia for Minor Hand Surgery, Nerve Block (O) 397
Aneurysms, Ruptured Abdominal Aortic (O) 458
Annual Meeting Program, Arkansas Medical Society
(SP) 417
Anterior Pituitary and Hypothalamic Hormones (O) 273
Antidepressants, The Tricyclic (SP) 285
Arkansas Alliance for Eradication of Venereal Disease
(SP) 213
Arkansas, Ampicillin Resistant Hemophilus Influenzae
Meningitis in (O) 267
Arkansas Cancer Patient, Problems in Care of the
Medically Indigent East (SP) 343
Arkansas Chapter of American College of Surgeons
Charter No. 51, History of the (O) 205
Arkansas, Fireworks Blindness in (O) 357
Arkansas Foundation for Medical Care, Minutes, Board
of Directors Meeting (SP) 220
Arkansas, Inservice Education for Public Health Nurses
in (SP) 370
Arkansas Mobile Home Standards Program (SP) 403
Arthrography of the Knee (a follow-up study) (O) 493
Atkinson, Henry Harrison (OB) 263
Auxiliary Dedicates Plaque (SP) 265, 334
Auxiliary Service, A Half Century of — The Better Half:
(O) 333

— B —

- Bailey, H. A. Ted, Jr. (O) 391
Basics of Physical Therapy (O) 140
Bissada, Nabil K. (O) 57, 235
Black, Thomas Nathaniel (OB) 83
Blindness in Arkansas, Fireworks (O) 357
B-Mode Ultrasonic Scanning (O) 130
Boop, Warren (O) 481
Botulism in Home-Canned Foods, Preventing (SP) 178

- Breast Engorgement, Prevention of Postpartum: Double-
Blind Comparison of Chlorotrianisene 72 mg. and
Placebo (O) 163
Bruce, Thomas A. (E) 104
Bulloch, Robert T. (E) 290

— C —

- Cancer Patient, Problems in Care of the Medically
Indigent East Arkansas (SP) 343
Cataracts as a Model of the Aging Process (E) 179
Cell Membranes (E) 500
Centennial Parade (SP) 4, 29
Central Arkansas Ostomy Association (SP) 219
Chaney, Carol (O) 111
Clark, Norma C. (SP) 143
Coffey, George Cleveland (R) 345
Committees of the Arkansas Medical Society 1975-76
(SP) 49
Comparison of Cervical Pap Smears with Subsequent
Diagnosis of Cervical Carcinoma — An Analysis of
Arkansas Health Department Pap Smears for
1970 and 1971 (O) 168
Conaway, Howard H. (O) 273
Cooper, James O. (OB) 302 (R) 345
Cooperative Health Manpower Statistic System (SP) 468
Coronary Artery Disease, Surgery for; An Appraisal
(E) 290
Council of the Arkansas Medical Society, Minutes of the
(SP) 224, 383, 408, 507
Crow, Asa A. (SP) 258
Crow, R. Lewis (O) 323, 458
Cullins, John G. (OB) 352
Current Therapy of Allergy (BR) 356

— D —

- Delk, John L. (O) 92
Deneke, James S. (O) 168
Diabetes, Dietary Management of the Child with (O) 197
Diabetes Mellitus, Home Management of Juvenile Onset
(O) 360
Diabetes Mellitus, Management of Juvenile (O) 111
Diabetic, Education of the Juvenile (O) 239
Dietary Management of the Child with Diabetes (O) 197
Disease Surveillance System, Society Endorses (SP) 377
Diseases of the Prostate: An Outline to Diagnosis and
Treatment (O) 235
Do You Remember ? (SP) 40
Douglas, John E. (O) 87
Dr. Flanigan Reports on Neurosurgical Section (SP) 298
Dupuytren's Contracture (O) 67

— E —

- Ear Disease, Tympanometry: An Objective Method of
Diagnosing Middle (O) 453
Easley, E. J. (SP) 343
Echocardiography: Principles and Some Diagnostic
Applications (O) 87
Education of the Juvenile Diabetic (O) 239

INDEX

Effects of Religious Backgrounds on Emotional Problems, The (O) 227
 Elbow, Pulled (O) 209
 Elders, M. Joycelyn (O) 111, 197, 239, 360
 Ellis, Harvie R. (SP) 499
 Ellis, Homer G. (O) 203
 Emotional Problems, The Effects of Religious Backgrounds on (O) 227
 ENCORE — Post Mastectomy Rehabilitation (SP) 82
 Equity, Thoughts on (The lack of accountability of the claimant and his attorney) (SP) 371

— F —

Family Physicians into Rural Communities, Getting (O) 327
 Feder, Frederick W. (O) 203
 Fein, Norman N. (OB) 412 (R) 414
 Fireworks Blindness in Arkansas (O) 357
 Fitzhugh, A. S. (SP) 73
 Five-Area Discrimination, The Arkansas Medical Society Gets to the Top in Efforts to Eliminate (SP) 260
 Fore, Fleeta I. (SP) 178
 Fowlkes, D. Karroll (SP) 285
 Fractures of the Metacarpals and Phalanges, The Wrist Extension Cast for (O) 97
 Franklin, Robert M. (OB) 302
 Fraiser, Thomas S. (O) 128
 Frazier, Claude (BR) 356
 Fulmer, Paul M. (R) 345

— G —

General Ophthalmological Examination for the Non-Ophthalmologist, The (O) 387
 General Practitioner, Strabismus for the (O) 62
 Generic Substitution Act, Outline of (SP) 108
 Genitourinary Infections, The Management of Acute (O) 57
 Get that Knee Going (Restoration of Knee Function) (O) 281
 Getting Family Physicians into Rural Communities (O) 327
 Gordon, Vida (BR) 356
 Greenwood, Ronald D. (O) 53, 457
 Grimes, H. Austin (O) 173, 365

— H —

Hand Surgery, Nerve Block Anesthesia for Minor (O) 397
 Haney, Werner (SP) 468
 Harden, V. Anthony (O) 168
 Harrison, Margaret (O) 267
 Hawkins, Martin C., Jr. (O) 205
 Health Manpower Statistic System, Cooperative (SP) 468
 Hemophilus influenzae Meningitis in Arkansas, Ampicillin Resistant (O) 267
 Hepatitis B: A Favorable Turn of Events, Prevention of (E) 469
 Historical Exhibits (SP) 28
 History of the Arkansas Chapter of American College of Surgeons Charter No. 51 (O) 205
 Holder, John C. (O) 130
 Home Management of Juvenile Onset Diabetes Mellitus (O) 360
 Hopkins, Carol (SP) 178, 213
 Hormones and Target Tissues (E) 144

Hot Springs Medical Journal Revisited Its First Year, 1892, The (O) 53
 House of Delegates, Business Affairs (SP) 1, 16
 House of Delegates, Minutes (SP) 384
 Howell, Robert T. (SP) 287
 H. R. 10641 (SP) 377
 Hudson, W. A. (SP) 40
 Hyatt, C. Lewis (OB) 413 (R) 415
 Hypothalamic Hormones, The Anterior Pituitary and (O) 273
 Hysteria, Clarification of Definitions and Dynamics (O) 159

— I —

Infections, The Management of Acute Genitourinary (O) 57
 Infectious Diseases in Obstetrics and Gynecology (BR) 474
 Inservice Education for Public Health Nurses in Arkansas (SP) 370
 Intraocular Lenses (O) 486

— J —

Johnson, Philip H. (O) 97, 281, 493
 Johnson, William E. (O) 92
 Jones, Kenneth G. (O) 67, 249, 371, 461
 Jones, Vivian (SP) 73
 Juvenile Diabetes Mellitus, Management of (O) 111
 Juvenile Diabetic, Education of the (O) 239
 Juvenile Onset Diabetes Mellitus, Home Management of (O) 360

— K —

Kahn, Alfred, Jr. (E) 75, 144, 179, 214, 253, 346, 404 (BR) 474, (E) 500
 Kelsey, J. F. (O) 203
 Kirkpatrick, Hoyt, Jr. (OB) 145 (R) 411
 Kirkpatrick, Robert Ross (OB) 109
 Knee Going, Get That (Restoration of Knee Function) (O) 281
 Knee of the Young Athlete, The Unstable (O) 461
 Knee (a follow-up study), Arthrography of the (O) 493

— L —

Landers, James H. (O) 269
 Lattin, Danny L. (SP) 465
 Leiomyoma of the Female Urethra — Report of Two Cases (O) 203
 Lenses, Intraocular (O) 486
 Lupus Erythematosus, The Mayo Clinic Reviews (E) 75

— M —

Management of the Acutely Poisoned Patient — Part I. Induced Emesis (SP) 311
 Management of the Acutely Poisoned Patient — Part II. Alternatives to Induced Emesis (SP) 368
 Mastectomy Rehabilitation, Post — ENCORE (SP) 82
 Mayo Clinic Reviews Lupus Erythematosus, The (E) 75
 M.E.D.D. — Medical Examinations for Disease Detection (SP) 252
 Medical Wanderings (E) 253
 Medicine, Safety Education as Preventive (SP) 143
 Medley, Yvonne (SP) 101
 Melton, Ray (O) 453
 Meniere's Disease, Round Window Ultrasonic Irradiation in Treatment of (O) 391

INDEX

Millard, Leighton (O) 140, 339
 Minirth, Frank B. (O) 159, 227
 Mobile Home Standards Program, Arkansas (SP) 403
 Monif, Gilles R. G., et al (BR) 474
 Monstrosity, An Early Description of a Congenital Anomaly: A Foetal (O) 457
 Multidisciplinary Neuroscience Course With Ongoing Program Evaluation (O) 481
 Multiphasic Screening in an Indigent Population (O) 128
 Mycology Laboratory Services (SP) 287

— Mc —

McRaney, Holden C. (OB) 505

— N —

Narcotic Overdose, Treating: Nalorphine, Levallorphan, or Naloxone? (SP) 465
 Nerve Block Anesthesia for Minor Hand Surgery (O) 397
 Neuroscience Course With Ongoing Program Evaluation, A Multidisciplinary (O) 481
 Neurosurgical Section, Dr. Flanigan Reports on (SP) 298
 Nolan, Charles M. (E) 469

— O —

Officers, County Medical Societies 1975 (SP) 46
 Officers for the Arkansas Medical Society 1975-1976 (SP) 45
 Ophthalmological Examination for the Non-Ophthalmologist (O) 387
 Ophthalmology Section, Resolution from (R) 386
 Orthopaedic and Trauma Patient, Pulmonary Embolism Prophylaxis in the (O) 330
 Ostomy Association, Central Arkansas (SP) 219
 Overdose, Treating Narcotic: Nalorphine, Levallorphan, or Naloxone? (SP) 465
 Outreach Program, The (SP) 73

— P —

Padberg, Helen (Mrs. Frank T.) (O) 333
 Painful Thumb (O) 249
 Pap Smears with Subsequent Diagnosis of Cervical Carcinoma, Comparison of — An Analysis of Arkansas Health Department Pap Smears for 1970 and 1971 (O) 168
 Pappas, James J. (O) 391
 Parish, Sarah (O) 197
 Patelle, Subluxating and Luxating (O) 173
 Pearce, Malcolm B. (E) 290
 Phillips, W. P. (O) 163
 Physical Therapy, Basics of (O) 140
 Physician's Opportunity Fair (SP) 296
 Plants Pose Potential Problems (SP) 401
 Poisoned Patient, Management of the Acutely — Part I. Induced Emesis (SP) 341
 Poisoned Patient, Management of the Acutely — Part II. Alternative to Induced Emesis (SP) 368
 Pope County Medical Society (R) 385
 Population, Multiphasic Screening in an Indigent (O) 128
 Porter, James O., Jr. (R) 82 (OB) 84
 Postpartum Breast Engorgement, Prevention of: Double-Blind Comparison of Chlorotrianisene 72 mg. and Placebo (O) 163
 President's Address (SP) 6
 President's Inaugural Address (SP) 32

Preventing Botulism in Home-Canned Foods (SP) 178
 Prevention of Hepatitis B: A Favorable Turn of Events (E) 469
 Preventive Medicine, Safety Education as (SP) 143
 Problems in Care of the Medically Indigent East Arkansas Cancer Patient (SP) 343
 Proceedings of the 99th Annual Session of the Arkansas Medical Society (SP) 1
 Prostate, Diseases of the: An Outline to Diagnosis and Treatment (O) 235
 Psychiatry Clinic, Treatment Continuers and Discontinuers in an Adult Outpatient (O) 92
 Public Health at a Glance (SP) 73, 101, 143, 178, 213, 252, 287, 343, 370, 403, 468, 499
 Public Health Nurses in Arkansas, Inservice Education for (SP) 370
 Pulled Elbow (O) 209
 Pulmonary Embolism Prophylaxis in the Orthopaedic and Trauma Patient (O) 330

— R —

Rabinowitz, Jack G. (O) 486
 Radiology, Some Recent Advances in Diagnostic (O) 489
 Redman, John F. (O) 57, 235
 Reed, Ulysses S. (R) 215 (OB) 222
 Reese, Paul David (O) 387
 Rehabilitation, Post Mastectomy — ENCORE (SP) 82
 Religious Backgrounds on Emotional Problems, The Effects of (O) 227
 Resolution: Ophthalmology Section (R) 386
 Resolution: Pope County Medical Society (R) 385
 Resolution: Union County Medical Society (R) 9
 Resolution: Uterine Cervical Cancer Control (R) 219
 Retinal Neovascularization: The Sleeping Dog of the Eye (O) 269
 Richmond, Samuel V. (OB) 386 (R) 414
 Round Window Ultrasonic Irradiation in Treatment of Meniere's Disease (O) 391
 Roundtree, Paul (O) 128
 Roy, F. Hampton (O) 486
 Ruptured Abdominal Aortic Aneurysms (O) 458
 Rural Communities, Getting Family Physicians into (O) 327
 Rushing, Louis U. (OB) 186

— S —

Safety Education as Preventive Medicine (SP) 143
 Saltzman, Ben N. (O) 327
 Sanford, Sloan M. (OB) 84
 Schoultz, Ture W. (O) 481
 Scotty Dog and His Collar, The (O) 339
 Scully, Francis J. (R) 82
 Shelton, James (SP) 403
 Shorey, Winston K. (OB) 413 (R) 413
 Shukers, Carroll Franklin, II (OB) 83
 Skuag, Warren A. (O) 360
 (Sleeping Sickness) Viral Encephalitis (SP) 499
 Smith, Douglas B. (O) 203
 Smith, Purcell, Jr. (SP) 183
 Some Recent Advances in Diagnostic Radiology (O) 489
 Sorrells, R. Barry (O) 209, 397
 Stathakis, John (R) 509
 Statistic System, Cooperative Health Manpower (SP) 468

INDEX

Steinkamp, Ruth C. (O) 168, 313
 Stone, Fred B., Sr. (OB) 386
 Strabismus for the General Practitioner (O) 62
 Strokes, Treatment of Evolving (O) 323
 Subluxating and Luxating Patellae (O) 173
 Suen, James Y. (O) 453
 Surgery for Coronary Artery Disease: An Appraisal (E) 290
 Surgery, Gynecology, and Obstetric's "What's New"
 (E) 214

— T —

The Better Half: A Half Century of Auxiliary Service
 (O) 333
 Therapeutic Drug Monitoring (SP) 219
 Therapy, Basics of Physical (O) 140
 Thompson, Diana (O) 239
 Thoughts on Equity (The lack of accountability of the
 claimant and his attorney) (SP) 371
 Thrombophlebitis (E) 401
 Thumb, Painful (O) 249
 Toe, The Big (O) 365
 Toxicology Update (SP) 285, 341, 368, 401, 465
 Trauma Patient, Pulmonary Embolism Prophylaxis in
 the Orthopaedic and (O) 330
 Treating Narcotic Overdose: Nalorphine, Levallorphan,
 or Naloxone? (SP) 465
 Treatment Continuers and Discontinuers in an Adult
 Outpatient Psychiatry Clinic (O) 92
 Treatment of Evolving Strokes (O) 323
 Tricyclic Antidepressants (SP) 285
 Tumors and Immunity (E) 346
 Tympanometry: An Objective Method of Diagnosing
 Middle Ear Disease (O) 453

— U —

Ultrasonic Scanning, B-Mode (O) 130
 Union County Medical Society Resolution (R) 9
 University System, The (E) 104
 Unstable Knee of the Young Athlete, The (O) 461
 Urethra, Leiomyoma of the Female — Report of Two
 Cases (O) 203
 Uterine Cervical Cancer Control (R) 219
 Uyeda, Carl K. (O) 168

— V —

Venereal Disease, Arkansas Alliance for Eradication of
 (SP) 213
 Vietnamese Refugee Doctors to Train Here (SP) 299
 Voldeng, A. Nelson (SP) 341, 368
 Viral Encephalitis (Sleeping Sickness) (SP) 499

— W —

Wackerhagen, Mary (O) 62
 Wallace, Deane D. (R) 344 (OB) 352
 Washburn, Arthur M., Sr. (OB) 222
 Weber, Charles Lynn (OB) 263
 WIC in Arkansas (SP) 101
 Wiggins, Chris E. (O) 330
 Williams, G. Doyne (E) 290
 Wilson, Jerry (SP) 252
 Wilson, R. Sloan (O) 269, 357
 Woodworth, Paul (O) 481
 Wright, Paul O. (R) 345
 Wrist Extension Cast, The, for Fractures of the
 Metacarpals and Phalanges (O) 97

— Y —

Yelich, Michael R. (O) 273

WHATEVER YOUR POLITICS



VOTE ARK-PAC

A new political party?

Hardly. The Arkansas Medical Political Action Committee is a voluntary non-profit, unincorporated group whose membership is open to all physicians, their spouses, and other interested people.

Ark-Pac encourages its members to work actively for good government through the established political party of their choice, but Ark-Pac's material resources may be concentrated for the benefit of worthy candidates from either party, thus reinforcing our efforts toward the basic objective — electing the best possible public representation.

Ark-Pac is your opportunity to join a winning team.

The time is now! Send your dues payment. Help Ark-Pac prepare for the next elections. Ark-Pac achieves bigness by transforming small individual contributions, which might otherwise go unnoticed, into a concerted political force.

Ark-Pac dues are \$25 for physicians, \$10 for the spouse, or \$99 for sustaining membership. Checks may be forwarded to Ark-Pac, Post Office Box 1208, Fort Smith, Arkansas 72901.

A copy of our report filed with the appropriate supervisory officer is available for purchase from:

**SUPERINTENDENT OF DOCUMENTS
UNITED STATES GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C. 20402**

THE LIBRARY
UNIVERSITY OF CALIFORNIA
San Francisco

THIS BOOK IS DUE ON THE LAST DATE STAMPED BELOW

7 DAY LOAN

7 DAY RETURNED

AUG 18 1976 OCT 12 1977

RETURNED

AUG 16 1976

7 DAY

FEB 27 1977

RETURNED

FEB 26 1977

7 DAY

AUG 1 1977

RETURNED

JUL 25 1977

7 DAY

OCT 14 1977

7 DAY

APR 21 1978

RETURNED

APR 14 1978

51

315988

